
**2012 ANNUAL POST-REMEDIATION
MAINTENANCE AND GROUNDWATER
MONITORING REPORT**

**United Technologies Corporation
Pratt & Whitney Division
Willow Brook and Willow Brook Pond
East Hartford, Connecticut**

January 2013

Volume 2 of 3

Prepared for

**UNITED TECHNOLOGIES CORPORATION
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Prepared by

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An Employee Owned Company

Comm. No. 88UT230.001

Pratt & Whitney
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Pratt & Whitney
A United Technologies Company

January 17, 2013

**State of Connecticut
Department of Energy & Environmental Protection
Remediation Division
79 Elm Street
Hartford, CT 06106-5127**

Attn: Maurice R. Hamel

**RE: United Technologies Corporation
Pratt & Whitney Division
Post Remediation Maintenance and Monitoring
Willow Brook and Willow Brook Pond (SRD-130) and Willow Street North**

Dear Mr. Hamel:

I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, that the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information is punishable as a criminal offense under §53-a-157b of the Connecticut General Statutes and any other applicable law.

Sincerely,

**UNITED TECHNOLOGIES CORPORATION
PRATT & WHITNEY DIVISION**

L. Renée Welsh
Director, EHS & Facilities – MC&O

Attachment

cc: Gil Richards, DEEP
Lauren Levine, UTC
Brian Cutler, LEA
Juan Perez, EPA



January 17, 2013

**State of Connecticut
Department of Energy & Environmental Protection
Remediation Division
79 Elm Street
Hartford, CT 06016-5127**

Attn: Maurice R. Hamel

**RE: United Technologies Corporation
Pratt & Whitney Division
Post Remediation Maintenance and Monitoring
Willow Brook and Willow Brook Pond (SRD-130) and Willow Street North
LEA Comm. No. 88UT230**

Dear Mr. Hamel:

In accordance with Paragraph B.1.e of the above referenced Consent Order and Appendix C and D of the document entitled *Remedial Action Work Plan and Request for Variance Engineered Control of Polluted Soils, Willow Street and Willow Street North PCB Remediation Project*, approved by the Department of Environmental Protection (CTDEP) on February 10, 2006 and the Modification to the Willow Brook Pond and Willow Street North Groundwater Monitoring Program approved by CTDEP on August 12, 2010, attached please find the 2012 Annual Post Remediation Maintenance and Groundwater Monitoring Report for Willow Brook and Willow Brook Pond and Willow Street North. The initial maintenance and monitoring activities were initiated following the August 31, 2002 completion of remediation activities at Willow Brook Pond and were augmented to include those monitoring and maintenance activities associated with the Willow Street North Project following completion on August 11, 2006. In accordance with Paragraph B.8 of the above referenced Consent Order, I hereby certify that:

I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, that the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information is punishable as a criminal offense under §53-a-157b of the Connecticut General Statutes and any other applicable law.

Loureiro Engineering Associates, Inc.

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AN EMPLOYEE-OWNED COMPANY



If you should have any questions or comments, please contact me at (860) 410-2968 or Lauren Levine of United Technologies Corporation at (860) 728-6520.

Sincerely,

LOUREIRO ENGINEERING ASSOCIATES, INC.

A handwritten signature in dark ink, appearing to read "BAC", is written over a faint, light-colored rectangular stamp.

Brian A. Cutler, P.E., L.E.P.
President

Attachment

cc: Gil Richards, CTDEEP
Juan Perez, EPA
L. Renée Welsh, P&W
Lauren Levine, UTC

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ACRONYMS

CSM	Conceptual Site Model
CT DEEP	Connecticut Department of Energy and Environmental Protection
CT ETPH	Connecticut Extractable Total Petroleum Hydrocarbons
CWTP	Concentrated Waste Treatment Plant
DEEP	Department of Energy and Environmental Protection
DQA	Data Quality Assessment
DQO	Data Quality Objective
DSN	Discharge Serial Number
DUE	Data Usability Evaluation
ELUR	Environmental Land Use Restriction
EPA	United States Environmental Protection Agency
ERA	Environmental Resource Associates
GB PMC	GB Pollutant Mobility Criteria
IDEC	Industrial/Commercial Direct Exposure Criteria
IVC	Industrial/Commercial Volatilization Criteria
LCI	Loureiro Contractors, Inc.
LCS	Laboratory Control Sample
LEA	Loureiro Engineering Associates, Inc.
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NOV	Notice of Violation
PCBs	Polychlorinated Biphenyls
PCE	Tetrachloroethylene
PE	Performance Evaluation
QA/QC	Quality Assurance/Quality Control
RAWP/RV	Remedial Action Work Plan, Request for Variance
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RCSAs	Regulations of Connecticut State Agencies
RCP	Reasonable Confidence Protocol
RDEC	Residential Direct Exposure Criteria
RSRs	Remediation Standard Regulations
RVC	Residential Volatilization Criteria
SWPC	Surface Water Protection Criteria
TCE	Trichloroethylene
TSCA	Toxic Substances Control Act
UTC	United Technologies Corporation
VC	Volatilization Criteria
VOCs	Volatile Organic Compounds

UNITS

mg/kg	milligrams per kilogram
mg/l	milligrams per liter
µg/l	micrograms per liter

1. INTRODUCTION

United Technologies Corporation (UTC)/Pratt & Whitney retained Loureiro Engineering Associates, Inc. (LEA) to perform the post-remediation maintenance and groundwater monitoring associated with the remediation of polychlorinated biphenyl (PCB) contaminated soil and sediment within and immediately surrounding Willow Brook, Willow Brook Pond, and Willow Street North (herein after referred to as the “Project Area”) at the UTC/Pratt & Whitney manufacturing facility in East Hartford, Connecticut (herein after referred to as the “Site”). The remediation of soil and sediment within and surrounding Willow Brook and Willow Brook Pond was undertaken to satisfy the requirements of Consent Order SRD-130 and was completed on August 31, 2002. The remediation of soil in areas between and below Willow Street and Willow Brook Pond (the Willow Street North Project) was undertaken by UTC/Pratt & Whitney on a voluntary basis in accordance with the document entitled *Remedial Action Work Plan and Request for Variance, Engineered Control of Polluted Soils, Willow Street and Willow Street North PCB Remediation Project* (RAWP/RFV), approved by the Connecticut Department of Energy and Environmental Protection (CT DEEP) on February 10, 2006. The Willow Street North Project was completed on August 11, 2006. The CT DEEP stated in a letter dated December 20, 2010 that UTC is in compliance with Consent Order SRD-130.

The following report has been prepared in accordance with the requirements of Appendix C and D of the RAWP/RFV, and the CT DEEP approved Modification to the Willow Brook Pond and Willow Street North Groundwater Monitoring Program. The CT DEEP approved modifications are described in more detail in Section 4. This report presents the 2012 annual summary of post-remediation groundwater and maintenance monitoring conducted to verify the adequacy of the remediation and long-term effectiveness of the engineered control installed at Willow Brook, Willow Brook Pond and Willow Street North.

The absence of confirmed detectable concentrations of PCBs in groundwater indicates that the remediation activities performed to date have been effective in eliminating PCBs as a groundwater contaminant source. VOCs, ETPH and total metals at locations within the Project Area have remained stable over time with no increasing trends, with the exception of chlorinated VOCs in monitoring well WT-MW-58, and several metals in monitoring well WT-MW-59. These apparent increasing trends will continue to be evaluated through the performance of additional semi-annual monitoring events.

There are sufficient groundwater data at this time to make a compliance determination relative to the Connecticut Remediation Standard Regulations (RSRs). However, as required by the regulations, additional rounds of groundwater monitoring will continue to be performed based on the revised monitoring plan approved by CT DEEP on August 12, 2010.

2. LOCATION AND SITE DESCRIPTION

The UTC/Pratt & Whitney East Hartford manufacturing facility is located at 400 Main Street in East Hartford, Connecticut. A Site Location Map is presented as Figure 2-1. The facility encompasses approximately 769-acres of contiguous land. Pratt & Whitney initiated aircraft engine manufacturing operations in East Hartford in December 1929. Current operations are conducted in an approximate 4 million square foot complex and include administration and management, manufacturing, testing, research and development and ancillary services. All of these activities take place in the western portion of the 769-acre property. The Rentschler Airport and the Klondike Area occupy the eastern portion of the property. UTC/Pratt & Whitney previously used these two areas as an airport and a storage/testing area, respectively.

Willow Brook Pond is located in the northwestern portion of the UTC/Pratt & Whitney East Hartford facility property and is approximately 4 acres in size. Willow Brook is a small stream transecting the UTC/Pratt & Whitney facility from the northern portion of the Rentschler Airport to the northwest portion of the current UTC/Pratt & Whitney operations complex. Willow Brook flows in a southwesterly direction in an open channel from Rentschler Airport, is then hard-piped underground to the inlet of Willow Brook Pond, and continues from the pond as an open channel to a culvert under Main Street. From Main Street, Willow Brook flows in an open channel for a distance of approximately 2,500 feet to the confluence with the Connecticut River. Willow Brook Pond, a single body of water when first created, has been modified various times through the years. It is now comprised of two ponds (Upper Willow Brook Pond and Lower Willow Brook Pond) subdivided by a culvert. The portion of Willow Street which was the subject of the 2006 remediation is adjacent to lower Willow Brook Pond.

During the week of November 9, 2009, the level of Willow Brook Pond was lowered to facilitate the long term operation of the dry weather pumping station associated with NPDES Permit CT0001376 Discharge Serial Number (DSN) 003. A secondary benefit to lowering the pond's water level was the provision of additional flood storage volume and improvement of the hydraulics of the facility's storm sewer system by eliminating chronic backwater conditions upstream of the dam. Since November of 2009, the water level in Upper and Lower Willow Brook Ponds has remained low.

3. BACKGROUND

During routine draining of Willow Brook Pond in September 1997, an oil sheen was noticed seeping through the sediment. Pratt & Whitney reported the sheen to the United States Coast Guard and the CT DEEP in accordance with discharge reporting requirements. Following the detection of PCBs in a sediment sample, the CT DEEP issued Pratt & Whitney a Notice of Violation (NOV), No. PCB 97-08, on November 7, 1997. In response to the NOV, during the period from December 1997 to April 1999, UTC/Pratt & Whitney developed a sampling work plan and conducted three phases of investigation. These investigations provided the analytical data to sufficiently define the horizontal and vertical limits of contamination and served as the basis for the development of a remediation plan. During the period from April 1999 to November 2000, UTC/Pratt & Whitney identified and evaluated remedial alternatives to address the PCB-contaminated sediments within and immediately surrounding Willow Brook Pond. The RAWP was submitted to the CT DEEP and the United States Environmental Protection Agency (EPA) in November of 2000.

During the period from November 2000 to June 2001, numerous permit applications and plans were submitted to regulatory agencies to secure approvals for elements of the remediation project. In addition, during this period of time, the CT DEEP was drafting Consent Order SRD-130 codifying expectations for the remediation of the Site. The Consent Order was signed by UTC/Pratt & Whitney on July 19, 2001 and the CT DEEP on August 1, 2001.

In addition to satisfying the CT DEEP requirements for remediation, UTC/Pratt & Whitney was also involved in a formal voluntary Resource Conservation and Recovery Act (RCRA) Corrective Action Program. On January 19, 2001, the EPA issued a determination that the remediation of contaminated sediments within Willow Brook and Willow Brook Pond was necessary. In order to obtain a decision that the remediation of the Site would be considered a final remedy for the contamination, EPA RCRA Corrective Action staff were involved in the review of the RAWP and were included in all project related correspondence with the various regulatory agencies.

The remediation and restoration activities performed within and immediately surrounding Willow Brook and Willow Brook Pond took place during the period from July 2, 2001 through August 31, 2002. The overall remedial action objective was to physically remove from the site, via excavation and off-site disposal, all soil and sediment containing total PCB concentrations in excess of 25 milligrams per kilogram (mg/kg) and then install a geotextile, soil and rock cap

(engineered control) over the entirety of Willow Brook Pond and the open channel of Willow Brook from Willow Brook Pond to Main Street. In addition to satisfying the requirements of the RSRs, the project was also implemented as part of a final remedy under the RCRA Corrective Action and Toxic Substances Control Act (TSCA) programs. Three areas within the Site were assigned additional remedial objectives. For the wetland and the southern portion of the Lower Willow Brook Pond, the additional remedial action objective was to physically remove all soil and sediment exhibiting contaminants at concentrations greater than the Residential Direct Exposure Criteria (RDEC) for PCBs. For the footprint of the Process Water Facility, inclusive of the small embayment west of the Process Water Facility, the additional remedial action objective was to meet the RDEC for PCBs in soils within 4-feet of the final grade, the Industrial/Commercial Direct Exposure Criteria (IDEC) for PCBs in soils defined as inaccessible by the RSRs, and the GB Pollutant Mobility Criteria (GB PMC) for soils above the seasonal high water table. All remedial action objectives were met during the course of the project.

In 2006, additional remediation of PCB contaminated soil was performed in two separate areas (areas South and East of Upper Willow Brook Pond, and North of the Concentrated Waste Treatment Plant [CWTP] area). The remediation activities were initiated on March 30, 2006 and were completed on August 11, 2006. The overall remedial action objective was to physically remove from the site, via excavation and off-site disposal, all soil and sediment containing total PCBs at concentrations in excess of 25 mg/kg and then install a geotextile and soil cap (engineered control) over the entirety of the project limits. In addition to satisfying the requirements of the RSRs, the project was also implemented as part of a final remedy under the RCRA Corrective Action and TSCA programs. Specific areas of the cap were constructed with a paved roadway surface or crushed rock surface for areas of the cap located below Willow Street or along the embankment of the ponds, respectively. For the areas along the perimeter of the engineered control, the additional remedial action objective was to meet the RDEC for PCBs for soils within 4-feet of the final grade, the IDEC for PCBs in inaccessible soils, and the GB PMC for soils above the seasonal high water table. All remedial action objectives were met during the course of the project.

The remedial action objectives also included the implementation of two institutional controls to ensure the long-term protectiveness of the remedy. The institutional controls consist of 1) an Environmental Land Use Restriction (ELUR) to ensure that the affected area will not be used for residential purposes and to prohibit excavation and 2) a fence around the entire Project Area, exclusive of the roadway, to preclude access to Willow Brook and Willow Brook Pond. The fence around the Project Area remains in place and a draft ELUR for the entirety of the Willow

Brook and Willow Brook Pond Project limits as well as the Willow Street North Project limits was submitted to the CT DEEP on September 22, 2006 and was subsequently approved on October 14, 2010. The ELUR was filed with the Town of East Hartford on March 4, 2011.

4. GROUNDWATER MONITORING

Groundwater monitoring activities were performed in accordance with subsection (f) of Section 22a-133k-3 of the Regulations of Connecticut State Agencies (RCSAs). The groundwater monitoring plans detailed in Appendix D of the RAWP/RFV for Willow Brook and Willow Brook Pond and Appendix C of the RAWP/RFC for Willow Street North were designed to determine:

- The effectiveness of soil remediation in preventing further pollution of groundwater by substances from the release area;
- The effectiveness of any remediation taken to eliminate or minimize identified health or safety risks associated with such release; and
- Whether applicable surface water protection criteria (SWPC) and volatilization criteria (VC) have been met.

In June 2002, a total of eleven groundwater monitoring wells (WT-MW-40 through WT-MW-50) were installed around the periphery of Willow Brook and Willow Brook Pond. In September 2006, three additional monitoring wells (WT-MW-57 through WT-MW-59) were installed as part of the remediation activities completed in 2006. One new monitoring well (WT-MW-19SR) was installed in April 2008 to replace monitoring well WT-MW-19S. The locations of these monitoring wells are depicted on the Site Plan included as Figure 4-1 of this report.

On August 12, 2010, CT DEEP granted approval to modify the groundwater monitoring program for Willow Brook Pond and Willow Street North (the Project Area). The modifications to the monitoring program included a reduction in the monitoring frequency from quarterly to semi-annually and the discontinued sampling of monitoring wells WT-MW-41, WT-MW-43, WT-MW-45 and WT-MW-49. Consequently, a total of two monitoring events were completed in 2012 in the months of March and September. The next scheduled event will be performed in March 2013.

4.1 Description of Groundwater Monitoring Activities

Groundwater samples were collected during the March 2012 and September 2012 sampling events from a total of eleven groundwater monitoring wells (WT-MW-19SR, WT-MW-40, WT-MW-42, WT-MW-44, WT-MW-46, WT-MW-47, WT-MW-48, WT-MW-50 and WT-MW-57 through WT-MW-59) located within the Project Area. It should be noted that no

sample was obtained from monitoring well WT-MW-19SR during the March and September sampling events because there was not enough groundwater in the well to yield the required sample volume. Alternatively, a groundwater sample was collected from monitoring well WT-MW-19I as part of both sampling events.

All groundwater samples were sent under chain of custody control to Accutest Laboratories (Accutest) of Marlborough, Massachusetts and were analyzed for the following parameters: PCBs by Method 8082; VOCs by EPA Method 8260B; Connecticut extractable total petroleum hydrocarbons (CT ETPH) by the CT DEEP approved method; and unfiltered metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc). In addition, one duplicate sample, trip blank sample, and equipment blank sample was collected and analyzed for each sampling event. Copies of field paperwork are included as Appendix A and copies of laboratory reports are included in Appendix B of this report.

4.2 Groundwater Elevations

Depth to water was measured from the well within the Project Area during the two sampling events using an electronic water level indicator. Water levels were measured to the nearest 0.01 foot. Water level measurements were collected by LEA on March 27, 2012 and September 5, 2012. Water-level information was used to evaluate groundwater flow directions and horizontal hydraulic gradients in the upper portion of the unconsolidated aquifer.

Generalized groundwater contour maps from the March and September, 2012 monitoring events have been included as Figures 4-2 and 4-3, respectively. It should be noted that Willow Brook Pond was partially drained to facilitate the long-term operation of the dry weather pumping station in November of 2009 and remained partially drained through September of 2012.

4.3 Quality Assurance and Quality Control Procedures

During the course of the 2012 post-remediation monitoring, a significant amount of information was obtained for the Project Area. This information included analytical data for groundwater samples; field measurements; sample tracking forms; and other documentation associated with sample collection and analysis. Ensuring that the data generated during the post-remediation monitoring was of sufficient quality to meet the data quality objectives (DQOs) for the project, performance and documentation of quality assurance/quality control (QA/QC) procedures for field and office activities was essential. The following DQOs were developed for the Post-Remediation Groundwater Monitoring Program for the Site:

- Samples collected are of sufficient quality and quantity to assess the groundwater conditions at the Project Area.
- Data obtained are of sufficient quality and quantity to support a regulatory compliance determination.
- Data are sufficient to determine handling and disposal requirements for purged groundwater and decontamination solutions generated during the post-remediation groundwater monitoring activities.

The various types of QA/QC procedures used to ensure that the data generated during the investigation was of sufficient quality to meet the DQOs for the project included the collection and/or analysis of trip blanks, equipment blanks, field duplicate samples, and performance evaluation (PE) samples. A detailed description of the methods employed to collect and analyze these QA/QC samples is provided in Appendix C.

All groundwater samples collected during the 2012 post-remediation groundwater sampling were analyzed in accordance with the CT DEEP Reasonable Confidence Protocols (RCPs), which provide additional QA/QC measures for the applicable EPA SW-846 and Connecticut methods. The RCPs provide specific QA/QC requirements that the laboratory must follow during analysis of environmental samples. QA/QC information provided by laboratories using the RCP methods was assessed and evaluated in accordance with the guidelines for performing Data Quality Assessments (DQAs) and Data Usability Evaluations (DUEs). The results from the DUE indicated that the data generated during the 2012 groundwater sampling events were usable for the intended purpose. A further explanation of the DQA and DUE process and a discussion of the results of the DQA and DUE are provided in Appendix C.

5. GROUNDWATER QUALITY

This section summarizes the results of groundwater sampling performed at the Project Area during 2011. Specifically, the following subsections summarize the reported concentrations for each constituent and provide a discussion of the results of the QA/QC measures employed for the groundwater sampling conducted at the Project Area.

5.1 Summary of Analytical Data

A total of 24 groundwater samples (including field duplicate samples) were collected during 2012 from Project Area monitoring wells. A summary of sampling and analytical information is included as Table 5-1. A summary of constituents detected in 2012 groundwater samples is included as Table 5-2. The following is a summary of the groundwater analytical results for each contaminant of concern.

Polychlorinated Biphenyls: A total of 24 groundwater samples collected during 2012 were analyzed for PCBs. PCBs were not detected in any groundwater samples collected during the March 2012 or September 2012 sampling events.

Volatile Organic Compounds: A total of 24 groundwater samples were analyzed for VOCs during 2012. Of the 24 samples analyzed, 14 contained detectable concentrations of VOCs. The maximum concentration of each compound in micrograms per liter ($\mu\text{g/l}$) is as follows:

Benzene	16.1 $\mu\text{g/l}$
Bromodichloromethane	6.6 $\mu\text{g/l}$
Chloroethane	28.2 $\mu\text{g/l}$
Chloroform	16.0 $\mu\text{g/l}$
1,1-Dichloroethane	98.4 $\mu\text{g/l}$
1,1-Dichloroethylene	162 $\mu\text{g/l}$
cis-1,2-Dichloroethylene	1,250 $\mu\text{g/l}$
trans-1,2-Dichloroethylene	3.8 $\mu\text{g/l}$
Methyl tert-Butyl Ether	3.5 $\mu\text{g/l}$
Tetrachloroethylene	244 $\mu\text{g/l}$
Tetrahydrofuran	56.1 $\mu\text{g/l}$
1,1,1-Trichloroethane	57.6 $\mu\text{g/l}$
Trichloroethylene	420 $\mu\text{g/l}$
Vinyl Chloride	200 $\mu\text{g/l}$

Total Petroleum Hydrocarbons: A total of 24 groundwater samples collected during 2012 were analyzed for CT ETPH. Of the 24 samples analyzed, 15 samples contained detectable concentrations. The maximum concentration of CT ETPH was detected in the March 2012 sample from monitoring well WT-MW-59 at a concentration of 1.39 milligrams per liter (mg/l).

Metals: A total of 24 groundwater samples were collected and analyzed for unfiltered metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc) during 2012. Of the 24 samples analyzed, 4 of these samples were also analyzed for hexavalent chromium as part of the ongoing Northwest Study Area project. Of the 24 samples analyzed, 20 samples contained detectable concentrations of metals. The maximum concentration of each metal is as follows:

Arsenic	0.0112 mg/l
Barium	0.395 mg/l
Cadmium	0.467 mg/l
Chromium	0.0122 mg/l
Copper	0.302 mg/l
Nickel	2.76 mg/l
Silver	0.0645 mg/l
Zinc	0.0391 mg/l

5.2 Data Quality Assessment and Data Usability Evaluation

All data were evaluated with respect to quality by conducting a DQA and DUE in accordance with the methodology described in the November 2007 guidance document entitled, *Reasonable Confidence Protocols* and presented in more detail in the May 2009 document entitled *Laboratory Quality Assurance Quality Control, Data Quality Assessment, Data Usability Evaluation Guidance Document*. The DQA was performed to assess the quality of the analytical data in each laboratory analytical report package.

QA/QC issues identified during the DQA process included:

- Results for the surrogate recoveries for VOCs and PCBs outside the accepted range for variability;
- Results for Laboratory Control Sample (LCS) for VOCs outside the accepted range of variability;

- Recoveries for Matrix Spike/Matrix Spike Duplicate (MS/MSD) and Relative Percent Differences (RPDs) for VOCs outside the accepted range of variability; and
- Several VOCs detected in Method Blanks.

The DQA worksheets are provided in Appendix C. The DQA resulted in identifying data for which the quality could affect its potential use in decision-making. After the laboratory analytical data were evaluated during the DQA, a DUE was performed. The DUE took into account the following:

- The site-specific conceptual site model (CSM);
- Knowledge of the contaminant types, concentrations, and distribution;
- Objectives for the data collection effort and the intended use of the data; and
- Results from field QA/QC sampling.

In general, the QA/QC deficiencies identified do not pertain to any of the primary constituents of concern at the Project Area. For example, VOCs such as acrylonitrile, 2,2-dichloropropane, and bromomethane were reported with LCS, MS/MSD, values that are outside of the accepted range of variability. However, these particular VOCs do not represent constituents of concern.

There was one instance in which a QA/QC deficiency was associated with trichloroethylene (TCE), which is a VOC that has been identified as a constituent of concern that could potentially affect the usability of the data. The MS/MSD recovery for TCE associated with groundwater collected from monitoring well WT-MW-50 in September 2012 of 43%/42% indicates a low bias. The concentration of TCE reported in groundwater was 199 µg/l, which is just below the RVC for TCE of 211 µg/l. However, the concentration of TCE reported in a duplicate sample collected from this monitoring well, which did not have any QA/QC non-conformances, was 332 µg/l. As a conservative measure, the higher value was used for decision making.

Taking into consideration multiple lines of evidence, results from the DUE indicated that the data generated during the 2012 groundwater sampling events were usable for the intended purpose. A more detailed discussion of the DQA and DQE results is included in Appendix C.

5.3 Observed Trends in Groundwater

There is sufficient groundwater data at this time to document contaminant trends at particular monitoring wells, as seven years of groundwater sampling has been performed. Graphs were generated for constituents in each monitoring well using data from March 2006 to present.

Graphs were prepared for the following compounds: cis-1,2-dichloroethylene, 1,1-dichloroethane, 1,1-dichloroethylene, tetrachloroethylene (PCE), TCE, vinyl chloride, CT ETPH, arsenic, barium, nickel and zinc in each monitoring well and are included as Appendix D. A separate graph depicting the concentrations of cadmium, copper, silver and zinc in groundwater collected from monitoring well WT-MW-59 is also provided. It should be noted that in the generation of constituent concentration graphs, a value of one half of the reporting limit was used for graphing the non-detected results. Data trends for the past six years are discussed by analytical group in the paragraphs below.

Polychlorinated Biphenyls: PCBs have remained at non-detectable levels from March 2004 to present for all groundwater sample locations with the exception of one groundwater sample collected from monitoring well WT-MW-44 in March 2007 and one groundwater sample collected from monitoring well WT-MW-43 in June 2010. The analytical results associated with both samples were further evaluated with the respective laboratories following the receipt and review of each report. The conclusions of both evaluations were that the detections of PCBs were likely false positives and not representative of actual aquifer conditions. The conclusions have been further supported by the analytical data from several subsequent groundwater samples from both monitoring well WT-MW-43 and WT-MW-44.

Total Petroleum Hydrocarbons: CT ETPH have been consistently detected in a majority of the wells within the Project Area from March 2006 to present in groundwater samples. The highest concentrations of CT ETPH in 2012 were detected in the March groundwater sample from monitoring well WT-MW-59. Based on an evaluation of the concentration graphs from March 2006 to present, no discernable upward or downward trends were observed for CT ETPH.

Volatile Organic Compounds: VOCs have been consistently detected from March 2006 to present in groundwater samples collected from monitoring wells WT-MW-40 and WT-MW-50 and from September 2006 to present in groundwater samples collected from monitoring wells WT-MW-57, WT-MW-58 and WT-MW-59. VOCs have also been historically reported in groundwater samples collected from monitoring well WT-MW-19S/WT-MW-19SR.

Since 2010, the concentrations of VOCs in groundwater samples collected from monitoring well WT-MW-40 appear to have either decreased or stabilized. Concentrations of 1,1-dichloroethane, cis-1,2-dichloroethylene and vinyl chloride in groundwater samples collected from monitoring well WT-MW-50 have also decreased. As evidenced on the VOC trend graphs for monitoring well WT-MW-58, the concentrations of chlorinated VOCs, mainly 1,1-dichloroethane, cis-1,2-dichloroethylene, TCE and vinyl chloride, in groundwater collected from monitoring well

WT-MW-58 have increased since the September 2010 sampling event. Additional investigation and monitoring will be conducted to further assess the VOC trend observed in monitoring well WT-MW-58.

Metals: One or more metals have been consistently detected from March 2006 to present in groundwater samples collected from monitoring wells WT-MW-40, WT-MW-48 and WT-MW-50 and from September 2006 to present in groundwater samples collected from monitoring wells WT-MW-57, WT-MW-58, and WT-MW-59. Concentrations of barium reported in groundwater samples collected from monitoring well WT-MW-40 since September 2011 appear to exhibit a decreasing trend. The concentrations of several metals, particularly cadmium in groundwater collected from monitoring well WT-MW-59 appear to exhibit an upward trend as shown on the metals trend graph prepared for this monitoring well. Monitoring well WT-MW-59, which contains the highest concentration of metals, is located on the southern side of Lower Willow Brook Pond. In order to evaluate metals concentrations at the point of discharge into Lower Willow Brook pond, three additional monitoring well (WT-MW-65, WT-MW-66 and WT-MW-67) were installed downgradient of monitoring well WT-MW-59 and adjacent to the bank of Lower Willow Brook Pond. Metals concentrations in groundwater samples collected from these three wells in October 2011 was significantly lower than the concentrations reported in monitoring well WT-MW-59. Additional investigation and monitoring will continue to be conducted to assess metal concentrations at the point of discharge into Willow Brook and Lower Willow Brook Pond.

5.4 Evaluation of Results Relative to the RSRs

In accordance with Appendix D of the RAWP/RFV, the groundwater analytical data have been compared to the default, numeric SWPC, Industrial/Commercial Volatilization Criteria (IVC) and Residential Volatilization Criteria (RVC). It should be noted, that historic releases occurring outside the Willow Brook and Willow Brook Pond and Willow Street North site have impacted groundwater quality. As such, the following discussions contain references to historic data as a means to provide an understanding of groundwater quality in the vicinity of Willow Brook and Willow Brook Pond prior to implementation of remediation activities.

5.4.1 Surface Water Protection Criteria

The following metals exceeded the default, numeric SWPC in at least one groundwater sample collected during the 2012 monitoring events: arsenic, cadmium, copper, nickel and silver. Arsenic exceeded the default, numeric SWPC of 0.004 mg/l in groundwater samples collected

from both sampling events from monitoring wells WT-MW-48 and WT-MW-50. The maximum arsenic concentrations detected in groundwater sampled from monitoring wells WT-MW-48 and WT-MW-50 were 0.0112 mg/ and 0.0067 mg/l respectively. Copper exceeded the default, numeric SWPC of 0.048 mg/l in groundwater collected from monitoring well WT-MW-19I during the March sampling event at a concentration of 0.0609 mg/l. Concentrations of cadmium, copper, nickel and silver detected in groundwater collected from monitoring well WT-MW-59 during both sampling events exceeded the default, numeric SWPC. Cadmium, copper, nickel and silver were reported at maximum concentrations of 0.467 mg/l, 0.302 mg/l, 2.76 mg/l and 0.0645 mg/l, respectively.

The concentrations of 1,1-dichloroethylene reported in groundwater collected from monitoring well WT-MW-50 in March and September 2012, which ranged from 115 µg/l to 162 µg/l, exceeded the default, numeric SWPC of 96 µg/l. Concentrations of PCE detected in monitoring wells WT-MW-19I and WT-MW-58 during both the March and September sampling events exceeded the default, numeric SWPC of 88 µg/l. PCE was reported at maximum concentrations of 185 µg/l and 244 µg/l in groundwater collected from monitoring wells WT-MW-19I and WT-MW-58, respectively. .

A comparison of 2012 groundwater results to the default, numeric SWPC is presented in Table 5-3.

5.4.2 Volatilization Criteria

Since the existing use of the Site is industrial/commercial in nature, and the future use of the Site will most likely remain industrial/commercial, compliance with the IVC was evaluated for the Site. However, due to the proximity of residential areas to the north and to the west of the Site, compliance with the RVC was also evaluated. It should be noted that based on the site-wide groundwater elevation data, groundwater within the Project Area does not flow toward the buildings to the north of Willow Brook or the buildings located west of the facility. A summary of the comparisons of the 2012 monitoring well data against the IVC and RVC are presented on Table 5-4 and Table 5-5, respectively.

The concentration of vinyl chloride exceeded the IVC and RVC of 2 µg/l in groundwater samples collected from monitoring wells WT-MW-19I, WT-MW-40, WT-MW-50, WT-MW-58 and WT-MW-59 at maximum concentrations of 13.3 µg/l, 7.3 µg/l, 11.3 µg/l, 200 µg/l, and 5.7 µg/l, respectively.

The concentration of 1,1-dichloroethylene exceeded the IVC of 6 µg/l and the RVC of 1 µg/l in groundwater samples collected from monitoring well WT-MW-50 and WT-MW-58 during the March and September sampling events. The highest concentration of 1,1-dichloroethylene of 162 µg/l was reported in groundwater collected from monitoring well WT-MW-50. The concentration of 1,1-dichloroethylene reported in groundwater collected from monitoring well WT-MW-19I exceeded the RVC only in both the March and September sampling events with a maximum concentration of 3.5 µg/l.

TCE concentrations reported in groundwater samples collected from monitoring wells WT-MW-19I and WT-MW-50 in both the March and September sampling events exceeded the RVC only. The groundwater collected from monitoring well WT-MW-19I contained a maximum concentration of 257 µg/l, while the groundwater collected from monitoring well WT-MW-50 contained a maximum concentration of 420 µg/l. In addition, the concentration of TCE reported in groundwater collected from monitoring well WT-MW-58 during the September 2012 sampling event exceeded the RVC with a concentration of 320 µg/l.

Historic groundwater analytical data for upgradient monitoring wells located south of Upper and Lower Willow Brook Pond and the stream channel west of Willow Brook Pond have exhibited concentrations of VOCs in excess of the concentrations discussed above. As a result, it has been concluded that the levels of VOCs detected during monitoring events are not attributable to contamination that was remediated as part of the Willow Brook and Willow Brook Pond and the Willow Street North remediation projects.

5.4.3 Compliance Determination

There are sufficient groundwater data at this time to make a compliance determination relative to the RSRs. However, as required by the regulations, additional rounds of groundwater monitoring will continue to be performed based on the revised monitoring plan approved by CT DEEP on August 12, 2010.

In August 2010, the CT DEEP approved a reduction in monitoring frequency from quarterly to semi-annual monitoring and the discontinued monitoring of four of the fifteen wells within the Project Area. The CT DEEP approval was granted because the groundwater data collected to date support that remediation activities completed have been effective in eliminating PCBs as a potential groundwater contaminant source and that the concentrations of VOCs, ETPH and total metals at locations within the Project Area have remained stable over time with no increasing trends, with the exception chlorinated VOCs in monitoring well WT-MW-58 and several metals

in monitoring well WT-MW-59. These apparent increasing trends will continue to be evaluated through the performance of additional semi-annual monitoring events.

6. ENGINEERED CONTROL MAINTENANCE & MONITORING

The post-remediation maintenance program for the engineered control was developed to ensure that the structural integrity, design permeability, and effectiveness of the engineered control will be maintained. This maintenance program was developed to:

- Periodically inspect the engineered control;
- Identify measures to be taken to prevent run-on and run-off of storm water from eroding or otherwise damaging the engineered control; and
- Identify measures to be taken to correct the effects of any settling, subsidence, erosion or other damaging events or conditions.

The engineered control and the area surrounding the engineered control were inspected in March, April, and September 2012 in the following areas:

1. Signs of erosion.
2. Signs of settling.
3. Loss of vegetative cover.
4. Undesirable growth.
5. Signs of ponding and run on.
6. Condition of fencing and gates.
7. Condition of rip-rap in Willow Brook stream channel.
8. Condition of stone layer in Willow Brook.
9. Burrowing animals.
10. Monitoring well network.

The Post-Remediation Maintenance Monitoring Forms are included in Appendix E and the findings are discussed below.

6.1 Summary of Maintenance & Monitoring Activities

The following section summarizes the maintenance issues and corrective actions that were implemented with respect to the engineered control during 2012.

- March 27, 2012 Inspection – The cap was reported to be in overall good condition during the March 27, 2012 cap inspection. There were no signs of settling, erosion, loss of vegetative cover, undesirable growth, ponding, run off, or burrowing animals observed during the inspection. Fencing, gates, rip-rap, and the stone layer in Willow Brook were all noted to be in good condition. There were no visible wells IDs, but the wells are easily identified with a map. Standing water was observed in several of the road boxes.
- April 24, 2012 Inspection – The April 24, 2012 was conducted following a significant precipitation event that yielded greater than 2-inches of rainfall within a 24 hour period. The condition of the cap identified during the April 24, 2012 cap inspection differed from the conditions reported during the previous cap inspection that was completed March 27, 2012. An erosion channel was observed from the west end of the Willow St parking lot towards Willow Brook. Woody growth measuring greater than 0.5-inches in diameter and 2-feet tall was present along the eastern end of Lower Willow Pond and the western half of Upper Willow Pond within the boundaries of the cap. Monitoring wells WT-MW-47 and WT-MW-57 were observed to have standing water inside the road boxes. These maintenance items were addressed in July and October 2012 and are discussed in detail in Section 6.2 below
- September 7, 2012 Inspection - The cap was reported to be in overall good condition during the September 7, 2012 cap inspection, with no new conditions noted since the April 2012 inspection. There were no signs of settling, loss of vegetative cover, ponding, or burrowing animals observed during the inspection. No standing water was observed in any of the road boxes. Fencing, gates, rip-rap, and the stone layer in Willow Brook were all noted to be in good condition. There were no visible wells IDs, but the wells are easily identified with a map. Congruent with the April 2012 inspection, woody growth measuring greater than 0.5-inches in diameter and 2-feet tall was present along the eastern end of Lower Willow Pond and the western half of Upper Willow Pond within the boundaries of the cap and some signs of erosion, particularly along the west end of the Willow Street parking lot, were noted.. The maintenance items were addressed in October 2012 and are discussed in detail in Section 6.2 below.

6.2 Corrective Action

On July 26, 2012, LEA field staff mobilized to the Project Area to address the infiltration of water into the road boxes housing monitoring wells WT-MW-47 and WT-MW-57. The old

concrete surrounding the road boxes was removed and the road boxes were replaced and sealed with a new mix of concrete and mortar.

Loureiro Contractors, Inc. (LCI) performed maintenance on the cap during the week of October 15, 2012 to address deficiencies documented during previous cap inspections completed in April and September. Maintenance services included the removal of coarse woody vegetation in the general vicinity of Upper Willow Brook Pond and Lower Willow Brook Pond and the repair of an erosion rill in the immediate vicinity of the dam on Lower Willow Brook Pond. Specifically, LCI removed coarse woody vegetation from the rip-rap slope protection around the western end of upper Willow Brook Pond and around the eastern end of lower Willow Brook Pond. All removed coarse woody vegetation was chipped. The chipped materials were spread across the north and northwestern portion of the former parking lot located to the northeast of upper Willow Brook Pond. Additional rip-rap material was added to the slope to stabilize an erosion rill located on the southern bank of lower Willow Brook, just below the dam.

The next semi-annual monitoring event will be conducted in March 2013. No additional actions are required or recommended at this time.

7. CONCLUSIONS

A total of two monitoring events were performed in 2012 for Willow Brook and Willow Brook Pond in accordance with the Modified Groundwater Monitoring Program for Willow Brook Pond and Willow Street North that was approved by CT DEEP in August 2010. Copies of the LEA letter requesting modifications to the groundwater monitoring program and the CT DEEP approval letter are provided as Appendix F.

No PCBs were detected in the groundwater samples collected and analyzed in 2012. Other constituents not believed to be related to either the Willow Brook and Willow Brook Pond Project or the Willow Street North Project were detected at levels consistent with background water quality data for the Site. VOCs, CT ETPH and metals were detected in the groundwater samples analyzed during the 2012 monitoring events. The concentrations of 1,1-dichloroethylene, PCE, arsenic, cadmium, copper, nickel, and silver exceeded the default, numeric SWPC. Additionally, the current IVC and/or RVC was exceeded in several groundwater samples for vinyl chloride, 1,1-dichloroethylene and TCE. These observations are generally consistent with historic data.

There are sufficient groundwater data at this time to determine trends or to make a compliance determination relative to the RSRs. As specified in the CT DEEP approved Modified Groundwater Monitoring Program, semi-annual groundwater monitoring will continue to be conducted to further substantiate the presence or absence of trends in constituent concentrations at particular monitoring wells at the site. The absence of detectable concentrations of PCBs in groundwater indicates that the remediation activities performed to date have been effective in eliminating PCBs as a groundwater contaminant source. VOCs, ETPH and total metals at locations within the Project Area have remained stable over time with no increasing trends, with the exception chlorinated VOCs in monitoring well WT-MW-58, and several metals in monitoring well WT-MW-59. These apparent increasing trends will continue to be evaluated through the performance of additional semi-annual monitoring events as well as supplemental monitoring conducted on a voluntary basis.

Two maintenance monitoring inspections were conducted in 2012 following the March and September 2012 monitoring events. An additional monitoring inspection was performed in April of 2012. The road boxes containing standing water, as documented in the April 2012 inspection, have been repaired with new covers. Erosion and woody growth, addressed in both the April and September inspection have also been corrected. Additional inspections and corrective action

measures, if necessary, will continue to be implemented as part of the maintenance and monitoring program.

TABLES

Table 5-1
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION
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Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	Analyt. Lab.	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides/PCBs	Fuels/Oils	Metals	Miscellaneous Analyses
WT-MW-19I	1255897	03/27/2012	23.00 - 26.00	GWS		X			x	X	X	
WT-MW-19I	1264981	09/06/2012	23.00 - 26.00	GWS		X			x	X	X	
WT-MW-40	1255895	03/27/2012	10.00 - 19.00	GWS		X			x	X	X	
WT-MW-40	1264978	09/06/2012	10.00 - 19.00	GWS		X			x	X	X	
WT-MW-42	1255896	03/27/2012	1.00 - 10.00	GWS		x			x	x	X	
WT-MW-42	1250517	09/27/2012	1.00 - 10.00	GWS		x			x	x	X	
WT-MW-44	1255891	03/27/2012	5.00 - 14.00	GWS		x			x	x	x	
WT-MW-44	1264976	09/06/2012	5.00 - 14.00	GWS		x			x	x	x	
WT-MW-46	1255889	03/26/2012	-1.50 - 7.50	GWS		x			x	x	x	
WT-MW-46	1264986	09/07/2012	-1.50 - 7.50	GWS		x			x	x	x	
WT-MW-47	1255893	03/26/2012	6.00 - 15.00	GWS		x			x	x	X	
WT-MW-47	1264985	09/07/2012	6.00 - 15.00	GWS		x			x	x	X	
WT-MW-48	1255890	03/26/2012		GWS		x			x	X	X	
WT-MW-48	1264984	09/07/2012		GWS		x			x	X	X	
WT-MW-50	1255898	03/27/2012	16.00 - 26.00	GWS		X			x	X	X	
WT-MW-50	1255901	03/27/2012	16.00 - 26.00	GWS		X			x	X	X	
WT-MW-50	1264979	09/06/2012	16.00 - 26.00	GWS		X			x	X	X	
WT-MW-50	1264991	09/06/2012	16.00 - 26.00	GWS		X			x	X	X	
WT-MW-57	1255894	03/26/2012	8.00 - 18.00	GWS		X			x	X	X	
WT-MW-57	1264982	09/07/2012	8.00 - 18.00	GWS		X			x	x	X	
WT-MW-58	1255899	03/27/2012	8.00 - 18.00	GWS		X			x	X	X	
WT-MW-58	1264980	09/06/2012	8.00 - 18.00	GWS		X			x	X	X	
WT-MW-59	1255900	03/27/2012	8.00 - 18.00	GWS		X			x	X	X	
WT-MW-59	1264977	09/06/2012	8.00 - 18.00	GWS		X			x	X	X	

Table 5-2
SUMMARY OF CONSTITUENTS DETECTED IN GROUNDWATER
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	Location ID	WT-MW-19I	WT-MW-19I	WT-MW-19I	WT-MW-19I	WT-MW-40	WT-MW-40	WT-MW-40
	Sample ID	1255897	1255897	1264981	1264981	1255895	1255895	1264978
	Sample Date	03/27/2012	03/27/2012	09/06/2012	09/06/2012	03/27/2012	03/27/2012	09/06/2012
	Sample Time	09:35	09:35	15:16	15:16	09:45	09:45	15:05
	Sample Depth	23.00' - 26.0	23.00' - 26.0	23.00' - 26.0	23.00' - 26.0	10.00' - 19.0	10.00' - 19.0	10.00' - 19.0
	Laboratory	ACTM	ACTM	ACTM	ACTM	ACTM	ACTM	ACTM
	Lab. Number	MC9090-7	MC9090-8	MC13777-12	MC13777-13	MC9090-3	MC9090-4	MC13777-14
Constituent	Units							
Depth of Well	Ft	25.24	25.24	25.24	25.24	12.58	12.58	17.89
Depth to Water	Ft	11.20	11.20	11.33	11.33	8.99	8.99	12.31
Oxygen, Dissolved (field)	mg/L	0.15	0.15	0.83	0.83	6.02	6.02	0.09
Specific Conductivity (field)	uS/cm	3443	3443	3637	3637	4487	4487	5759
Temperature	C	11.3	11.3	18.37	18.37	12.6	12.6	21.3
Turbidity (field)	NTU	2.68	2.68	1.59	1.59	3.80	3.80	5.2
Water Elevation	Ft	24.43	24.43	24.30	24.30	23.11	23.11	19.79
pH (field measurement)	SU	6.63	6.63	7.09	7.09	7.27	7.27	7.05
Date Metals Analyzed	-		03/30/2012		09/10/2012		03/30/2012	
Date Organics Analyzed	-	04/04/2012		09/17/2012		04/04/2012		09/17/2012
Date Physical Analyzed	-	04/02/2012		09/11/2012		03/30/2012		09/11/2012
Arsenic (unfiltered)	mg/L							
Barium (unfiltered)	mg/L					0.376		
Cadmium (unfiltered)	mg/L							
Chromium, Total (unfiltered)	mg/L							
Copper (unfiltered)	mg/L		0.0609		0.0462			
Nickel (unfiltered)	mg/L		0.239		0.207			
Silver (unfiltered)	mg/L							
Zinc (unfiltered)	mg/L							
Oxidation-Reduction Potential	mV	99.2	99.2	-90.6	-90.6	103.9	103.9	-64.1
Total Petroleum Hydrocarbons (CT ETPH)	mg/L	0.297		0.147		0.151		0.0855
Benzene	ug/L	3.0		2.9				
1,1,1-Trichloroethane	ug/L							
1,1-Dichloroethane	ug/L	5.7		7.8		8.5		11.4
Chloroethane	ug/L							
Methyl tert-Butyl ether	ug/L	3.5						
1,1-Dichloroethylene	ug/L	3.5		2.8				
trans-1,2-Dichloroethylene	ug/L							

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Table 5-2
SUMMARY OF CONSTITUENTS DETECTED IN GROUNDWATER
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	Location ID	WT-MW-40	WT-MW-42	WT-MW-42	WT-MW-47	WT-MW-47	WT-MW-48	WT-MW-48
	Sample ID	1264978	1255896	1250517	1255893	1264985	1255890	1255890
	Sample Date	09/06/2012	03/27/2012	09/27/2012	03/26/2012	09/07/2012	03/26/2012	03/26/2012
	Sample Time	15:05	11:30	10:10	13:10	11:41	13:25	13:25
	Sample Depth	10.00' - 19.0	1.00' - 10.00	1.00' - 10.00	6.00' - 15.00	6.00' - 15.00		
	Laboratory	ACTM	ACTM	ACTM	ACTM	ACTM	ACTM	ACTM
	Lab. Number	MC13777-15	MC9090-6	MC14490-2	MC9052-7	MC13829-7	MC9052-3	MC9052-4
Constituent	Units							
Depth of Well	Ft	17.89	6.24		14.34	14.36	7.54	7.54
Depth to Water	Ft	12.31	3.41	3.75	9.11	9.52	4.90	4.90
Oxygen, Dissolved (field)	mg/L	0.09	6.21	1.09	3.46	1.77	8.14	8.14
Specific Conductivity (field)	uS/cm	5759	165.9	339	451.9	289.6	0.453	0.453
Temperature	C	21.3	10.4	17.5	11.7	21.7	10.7	10.7
Turbidity (field)	NTU	5.2	1.61	3.3	4.28	3.87	4.28	4.28
Water Elevation	Ft	19.79	31.45	31.11	27.35	26.94	24.98	24.98
pH (field measurement)	SU	7.05	6.38	6.31	5.57	5.75	6.50	6.50
Date Metals Analyzed	-	09/10/2012	03/30/2012	10/02/2012	03/30/2012	09/11/2012		03/30/2012
Date Organics Analyzed	-							
Date Physical Analyzed	-						04/02/2012	
Arsenic (unfiltered)	mg/L							0.0053
Barium (unfiltered)	mg/L	0.312		0.0679	0.165	0.0574		
Cadmium (unfiltered)	mg/L							
Chromium, Total (unfiltered)	mg/L							0.0122
Copper (unfiltered)	mg/L							
Nickel (unfiltered)	mg/L							
Silver (unfiltered)	mg/L							
Zinc (unfiltered)	mg/L		0.0209					
Oxidation-Reduction Potential	mV	-64.1	113.7	191	151.8	-130.4	-92.8	-92.8
Total Petroleum Hydrocarbons (CT ETPH)	mg/L						0.241	
Benzene	ug/L							
1,1,1-Trichloroethane	ug/L							
1,1-Dichloroethane	ug/L							
Chloroethane	ug/L							
Methyl tert-Butyl ether	ug/L							
1,1-Dichloroethylene	ug/L							
trans-1,2-Dichloroethylene	ug/L							

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Table 5-2
SUMMARY OF CONSTITUENTS DETECTED IN GROUNDWATER
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	Location ID	WT-MW-48	WT-MW-48	WT-MW-50	WT-MW-50	WT-MW-50	WT-MW-50	WT-MW-50
	Sample ID	1264984	1264984	1255898	1255898	1255901	1255901	1264979
	Sample Date	09/07/2012	09/07/2012	03/27/2012	03/27/2012	03/27/2012	03/27/2012	09/06/2012
	Sample Time	09:51	09:51	11:20	11:20	11:20	11:20	10:46
	Sample Depth			16.00' - 26.0	16.00' - 26.0	16.00' - 26.0	16.00' - 26.0	16.00' - 26.0
	Laboratory	ACTM	ACTM	ACTM	ACTM	ACTM	ACTM	ACTM
	Lab. Number	MC13829-3	MC13829-4	MC9090-10	MC9090-9	MC9090-15	MC9090-16	MC13777-1
Constituent	Units							
Depth of Well	Ft	7.58	7.58	5.22	5.22	5.22	5.22	3.34
Depth to Water	Ft	4.87	4.87	3.41	3.41	3.41	3.41	5.03
Oxygen, Dissolved (field)	mg/L	0.15	0.15	2.32	2.32	2.32	2.32	3.04
Specific Conductivity (field)	uS/cm	653	653	4040	4040	4040	4040	5210
Temperature	C	22.7	22.7	6.7	6.7	6.7	6.7	21.71
Turbidity (field)	NTU	3.04	3.04	3.79	3.79	3.79	3.79	4.71
Water Elevation	Ft	25.01	25.01	20.11	20.11	20.11	20.11	18.49
pH (field measurement)	SU	6.70	6.70	6.58	6.58	6.58	6.58	7.36
Date Metals Analyzed	-		09/11/2012	03/30/2012			03/30/2012	
Date Organics Analyzed	-				04/04/2012	04/04/2012		09/17/2012
Date Physical Analyzed	-	09/14/2012			04/02/2012	04/02/2012		09/10/2012
Arsenic (unfiltered)	mg/L		0.0112	0.0067			0.0063	
Barium (unfiltered)	mg/L		0.0610	0.331			0.35	
Cadmium (unfiltered)	mg/L							
Chromium, Total (unfiltered)	mg/L							
Copper (unfiltered)	mg/L							
Nickel (unfiltered)	mg/L							
Silver (unfiltered)	mg/L							
Zinc (unfiltered)	mg/L						0.0217	
Oxidation-Reduction Potential	mV	-122.9	-122.9	-148.9	-148.9	-148.9	-148.9	-115.4
Total Petroleum Hydrocarbons (CT ETPH)	mg/L	0.130			0.228	0.234		0.100
Benzene	ug/L				0.77	0.81		
1,1,1-Trichloroethane	ug/L				51.8	49.6		17.8
1,1-Dichloroethane	ug/L				9.6	9.5		8.0
Chloroethane	ug/L				26.0	28.2		12.0
Methyl tert-Butyl ether	ug/L							
1,1-Dichloroethylene	ug/L				162	153		74.8
trans-1,2-Dichloroethylene	ug/L							

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Table 5-2
SUMMARY OF CONSTITUENTS DETECTED IN GROUNDWATER
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	Location ID	WT-MW-50	WT-MW-50	WT-MW-50	WT-MW-57	WT-MW-57	WT-MW-57	WT-MW-57
	Sample ID	1264979	1264991	1264991	1255894	1255894	1264982	1264982
	Sample Date	09/06/2012	09/06/2012	09/06/2012	03/26/2012	03/26/2012	09/07/2012	09/07/2012
	Sample Time	10:46	10:46	10:46	11:50	11:50	07:20	07:20
	Sample Depth	16.00' - 26.0	16.00' - 26.0	16.00' - 26.0	8.00' - 18.00	8.00' - 18.00	8.00' - 18.00	8.00' - 18.00
	Laboratory	ACTM	ACTM	ACTM	ACTM	ACTM	ACTM	ACTM
	Lab. Number	MC13777-2	MC13777-3	MC13777-4	MC9052-8	MC9052-9	MC13829-1	MC13829-2
Constituent	Units							
Depth of Well	Ft	3.34	5.03	5.03			18.19	18.19
Depth to Water	Ft	5.03	3.34	3.34	11.42	11.42	12.57	12.57
Oxygen, Dissolved (field)	mg/L	3.04	3.04	3.04	0.32	0.32	0.26	0.26
Specific Conductivity (field)	uS/cm	5210	5210	5210	1313	1313	1569	1569
Temperature	C	21.71	21.71	21.71	14.0	14.0	19.5	19.5
Turbidity (field)	NTU	4.71	4.71	4.71	1.28	1.28	5.8	5.8
Water Elevation	Ft	18.49	20.18	20.18	26.70	26.70	25.55	25.55
pH (field measurement)	SU	7.36	7.36	7.36	5.81	5.81	5.96	5.96
Date Metals Analyzed	-	09/10/2012		09/10/2012		03/30/2012		09/11/2012
Date Organics Analyzed	-		09/17/2012		03/27/2012		09/19/2012	
Date Physical Analyzed	-		09/10/2012		04/02/2012			
Arsenic (unfiltered)	mg/L	0.0051		0.0053				
Barium (unfiltered)	mg/L	0.344		0.331		0.236		0.204
Cadmium (unfiltered)	mg/L							
Chromium, Total (unfiltered)	mg/L							
Copper (unfiltered)	mg/L							
Nickel (unfiltered)	mg/L							
Silver (unfiltered)	mg/L							
Zinc (unfiltered)	mg/L							
Oxidation-Reduction Potential	mV	-115.4	-115.4	-115.4	-30.7	-30.7	219.3	219.3
Total Petroleum Hydrocarbons (CT ETPH)	mg/L		0.0942		0.118			
Benzene	ug/L							
1,1,1-Trichloroethane	ug/L		28.0					
1,1-Dichloroethane	ug/L		8.4					
Chloroethane	ug/L		6.1					
Methyl tert-Butyl ether	ug/L							
1,1-Dichloroethylene	ug/L		115					
trans-1,2-Dichloroethylene	ug/L							

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Table 5-2
SUMMARY OF CONSTITUENTS DETECTED IN GROUNDWATER
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report



	Location ID	WT-MW-58	WT-MW-58	WT-MW-58	WT-MW-58	WT-MW-59	WT-MW-59	WT-MW-59
	Sample ID	1255899	1255899	1264980	1264980	1255900	1255900	1264977
	Sample Date	03/27/2012	03/27/2012	09/06/2012	09/06/2012	03/27/2012	03/27/2012	09/06/2012
	Sample Time	13:50	13:50	13:36	13:36	15:10	15:10	12:35
	Sample Depth	8.00' - 18.00	8.00' - 18.00	8.00' - 18.00	8.00' - 18.00	8.00' - 18.00	8.00' - 18.00	8.00' - 18.00
	Laboratory	ACTM	ACTM	ACTM	ACTM	ACTM	ACTM	ACTM
	Lab. Number	MC9090-11	MC9090-12	MC13777-6	MC13777-7	MC9090-13	MC9090-14	MC13777-10
Constituent	Units							
Depth of Well	Ft	17.74	17.74	17.60	17.60	18.77	18.77	17.67
Depth to Water	Ft	12.23	12.23	12.546	12.546	12.68	12.68	12.75
Oxygen, Dissolved (field)	mg/L	1.37	1.37	0.93	0.93	0.24	0.24	0.27
Specific Conductivity (field)	uS/cm	1413	1413	2364	2364	13021	13021	15287
Temperature	C	12.3	12.3	24.37	24.37	13.5	13.5	20.7
Turbidity (field)	NTU	4.93	4.93	9.01	9.01	5.31	5.31	5.89
Water Elevation	Ft	26.53	26.53	26.21	26.21	26.16	26.16	26.09
pH (field measurement)	SU	6.22	6.22	6.71	6.71	6.38	6.38	6.75
Date Metals Analyzed	-		03/30/2012		09/10/2012		03/30/2012	
Date Organics Analyzed	-	04/04/2012		09/14/2012		04/05/2012		09/17/2012
Date Physical Analyzed	-	04/02/2012		09/10/2012		04/02/2012		09/11/2012
Arsenic (unfiltered)	mg/L							
Barium (unfiltered)	mg/L		0.21		0.395		0.162	
Cadmium (unfiltered)	mg/L						0.265	
Chromium, Total (unfiltered)	mg/L						0.0110	
Copper (unfiltered)	mg/L						0.275	
Nickel (unfiltered)	mg/L						2.76	
Silver (unfiltered)	mg/L						0.0373	
Zinc (unfiltered)	mg/L						0.0345	
Oxidation-Reduction Potential	mV	89.9	89.9	-37.4	-37.4	83.1	83.1	138.7
Total Petroleum Hydrocarbons (CT ETPH)	mg/L	0.419		0.182		1.39		0.908
Benzene	ug/L	2.6		16.1				
1,1,1-Trichloroethane	ug/L	57.6		52.0				
1,1-Dichloroethane	ug/L	55.8		98.4		6.3		8.0
Chloroethane	ug/L	9.5		20.1				
Methyl tert-Butyl ether	ug/L							
1,1-Dichloroethylene	ug/L	13.9		28.8				
trans-1,2-Dichloroethylene	ug/L	3.8		2.6				

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Table 5-2
SUMMARY OF CONSTITUENTS DETECTED IN GROUNDWATER
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report



	Location ID	WT-MW-59						
	Sample ID	1264977						
	Sample Date	09/06/2012						
	Sample Time	12:35						
	Sample Depth	8.00' - 18.00						
	Laboratory	ACTM						
	Lab. Number	MC13777-11						
Constituent	Units							
Depth of Well	Ft	17.67						
Depth to Water	Ft	12.75						
Oxygen, Dissolved (field)	mg/L	0.27						
Specific Conductivity (field)	uS/cm	15287						
Temperature	C	20.7						
Turbidity (field)	NTU	5.89						
Water Elevation	Ft	26.09						
pH (field measurement)	SU	6.75						
Date Metals Analyzed	-	09/10/2012						
Date Organics Analyzed	-							
Date Physical Analyzed	-							
Arsenic (unfiltered)	mg/L							
Barium (unfiltered)	mg/L	0.192						
Cadmium (unfiltered)	mg/L	0.467						
Chromium, Total (unfiltered)	mg/L	0.0107						
Copper (unfiltered)	mg/L	0.302						
Nickel (unfiltered)	mg/L	2.44						
Silver (unfiltered)	mg/L	0.0645						
Zinc (unfiltered)	mg/L	0.0391						
Oxidation-Reduction Potential	mV	138.7						
Total Petroleum Hydrocarbons (CT ETPH)	mg/L							
Benzene	ug/L							
1,1,1-Trichloroethane	ug/L							
1,1-Dichloroethane	ug/L							
Chloroethane	ug/L							
Methyl tert-Butyl ether	ug/L							
1,1-Dichloroethylene	ug/L							
trans-1,2-Dichloroethylene	ug/L							



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EXCEEDANCES OF DEFAULT, NUMERIC SURFACE WATER PROTECTION CRITERIA
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

[illegible]

EXCEEDANCES OF DEFAULT, NUMERIC SURFACE WATER PROTECTION CRITERIA
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

[illegible]

EXCEEDANCES OF DEFAULT, NUMERIC SURFACE WATER PROTECTION CRITERIA
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

[illegible]



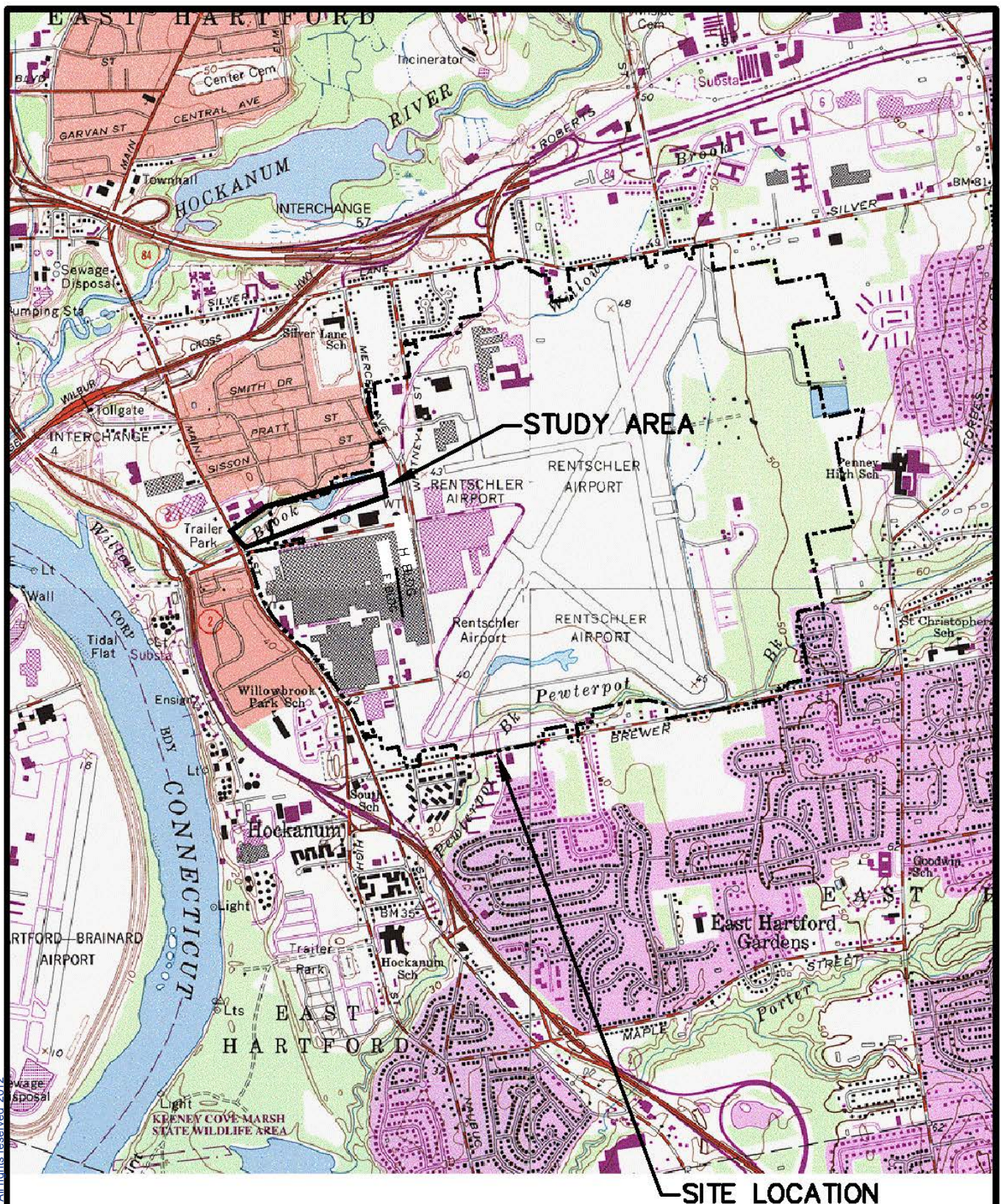
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FIGURES



MAP REFERENCE:
 USGS 7.5 MINUTE SERIES QUADRANGLES FOR
 HARTFORD NORTH, HARTFORD SOUTH,
 GLASTONBURY, AND MANCHESTER CONN.,
 DATED 1964 & 1963 AND REVISED 1992.

1000 0 1000 2000 3000

SCALE IN FEET



2012 ANNUAL POST-REMEDIATION MAINTENANCE AND GROUNDWATER MONITORING PROGRAM
 WILLOW BROOK & WILLOW POND - PRATT & WHITNEY, EAST HARTFORD, CONNECTICUT

SITE LOCATION MAP

Comm.No.

88UT230.001

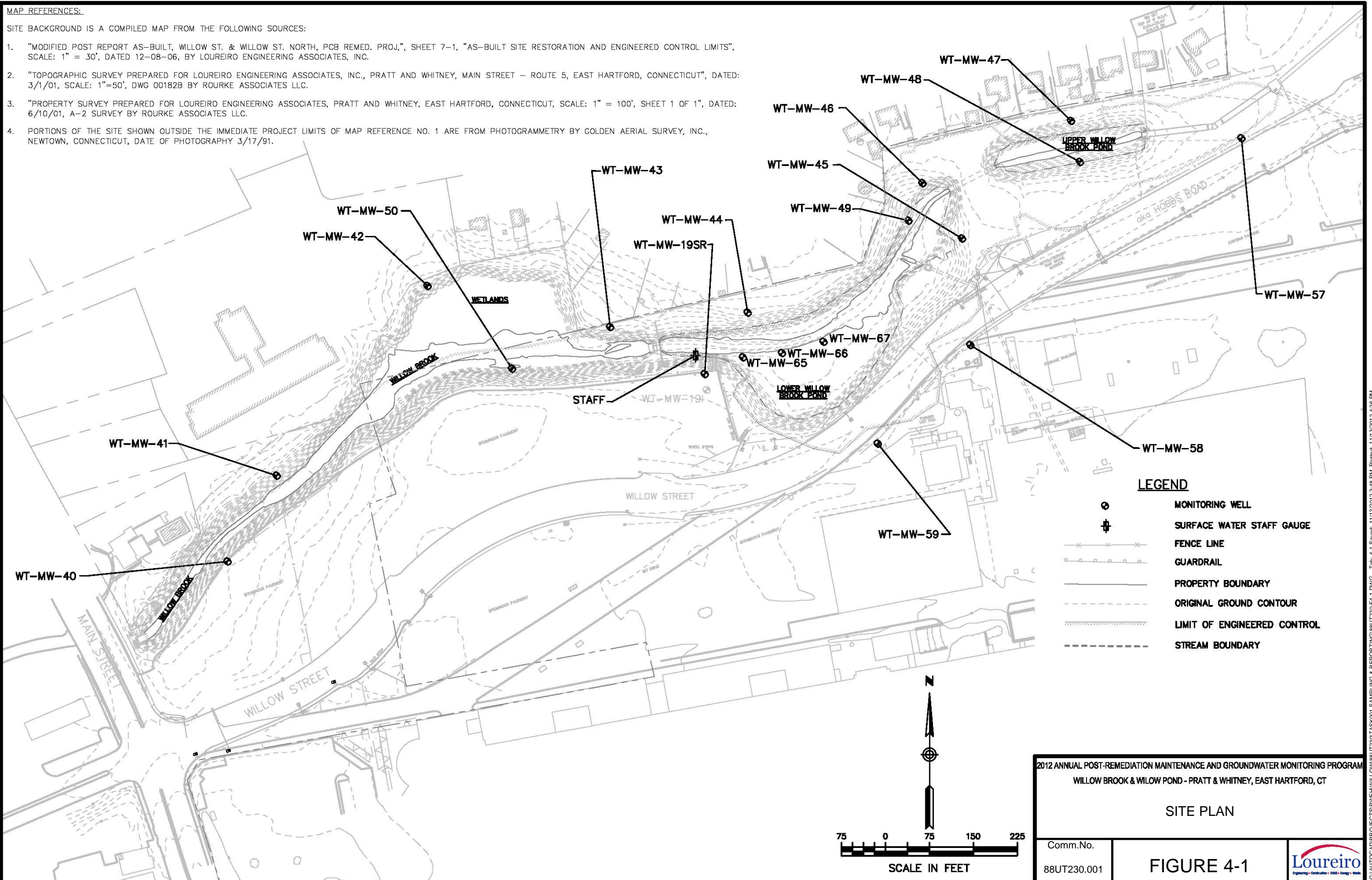
FIGURE 2-1



MAP REFERENCES:

SITE BACKGROUND IS A COMPILED MAP FROM THE FOLLOWING SOURCES:

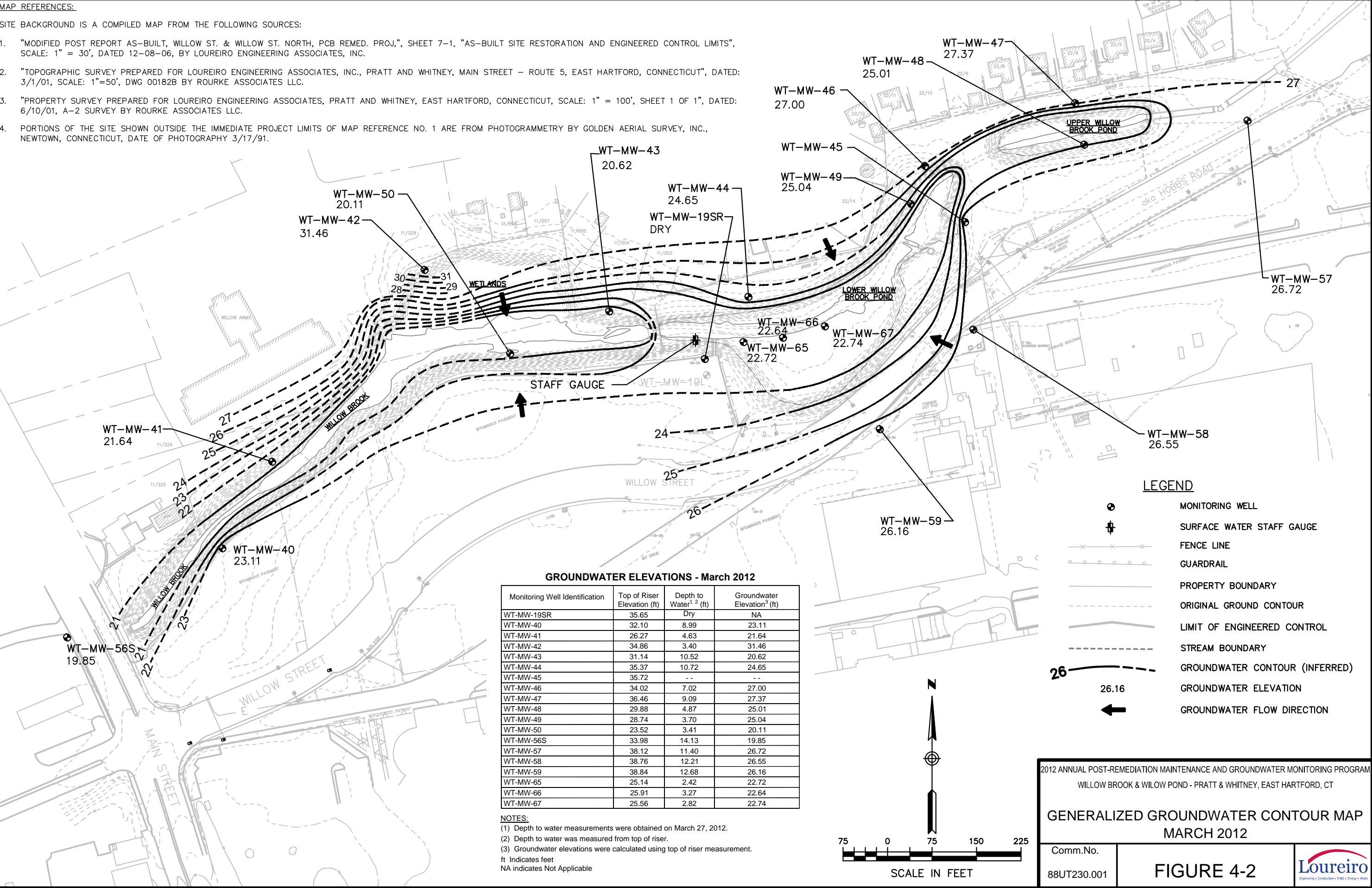
1. "MODIFIED POST REPORT AS-BUILT, WILLOW ST. & WILLOW ST. NORTH, PCB REMED. PROJ.", SHEET 7-1, "AS-BUILT SITE RESTORATION AND ENGINEERED CONTROL LIMITS", SCALE: 1" = 30', DATED 12-08-06, BY LOUREIRO ENGINEERING ASSOCIATES, INC.
2. "TOPOGRAPHIC SURVEY PREPARED FOR LOUREIRO ENGINEERING ASSOCIATES, INC., PRATT AND WHITNEY, MAIN STREET - ROUTE 5, EAST HARTFORD, CONNECTICUT", DATED: 3/1/01, SCALE: 1"=50', DWG 00182B BY ROURKE ASSOCIATES LLC.
3. "PROPERTY SURVEY PREPARED FOR LOUREIRO ENGINEERING ASSOCIATES, PRATT AND WHITNEY, EAST HARTFORD, CONNECTICUT, SCALE: 1" = 100', SHEET 1 OF 1", DATED: 6/10/01, A-2 SURVEY BY ROURKE ASSOCIATES LLC.
4. PORTIONS OF THE SITE SHOWN OUTSIDE THE IMMEDIATE PROJECT LIMITS OF MAP REFERENCE NO. 1 ARE FROM PHOTOGRAMMETRY BY GOLDEN AERIAL SURVEY, INC., NEWTOWN, CONNECTICUT, DATE OF PHOTOGRAPHY 3/17/91.



MAP REFERENCES:

SITE BACKGROUND IS A COMPILED MAP FROM THE FOLLOWING SOURCES:

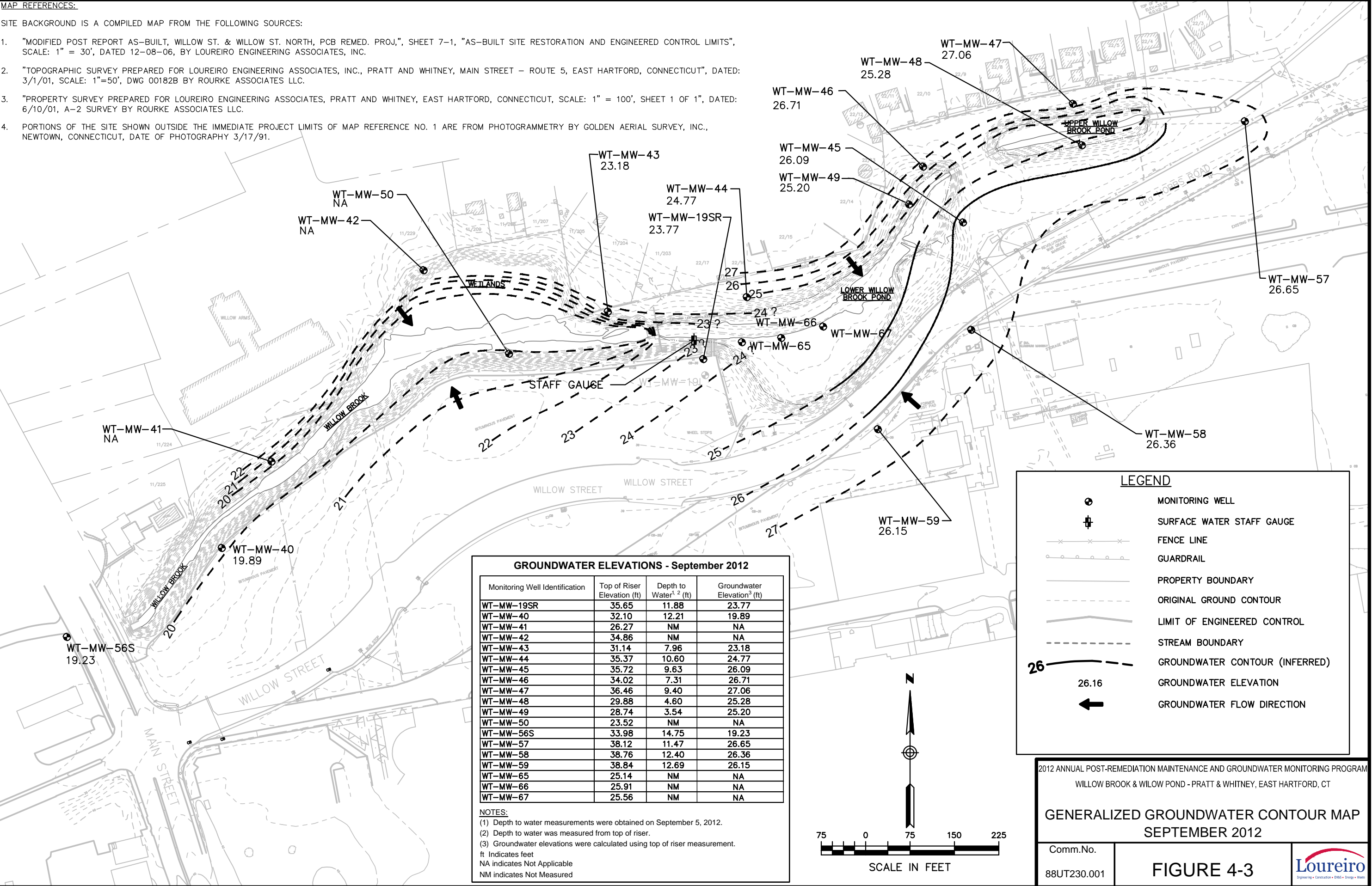
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Appendix A

Copies of Field Paperwork



DAILY FIELD REPORT

Loureiro Engineering Associates, Inc.

LEA Comm. No. **88UT230.001**
Project **UTC P&WEH 2012 Willow Brook GWM**
Location **P&W East Hartford, East Hartford, CT**
Client **Pratt & Whitney East Hartford-LL**

Page 1 of 8
Date 3/26/12

Arrived at Site 0935 Departed from Site 1600

Vehicle ST-18

Site Activities

- | | |
|---|---|
| <input checked="" type="checkbox"/> Soil Sampling | <input type="checkbox"/> Geoprobe Work |
| <input type="checkbox"/> Groundwater Sampling | <input type="checkbox"/> Concrete Coring |
| <input type="checkbox"/> Surface Water Sampling | <input type="checkbox"/> Construction |
| <input type="checkbox"/> Vapor/Air Sampling | <input type="checkbox"/> Waste Management |
| <input type="checkbox"/> Concrete Sampling | |
| <input type="checkbox"/> Other Sampling | <input type="checkbox"/> Inspection |
| <input type="checkbox"/> Other Sampling | <input type="checkbox"/> Site Walk Over |
| | <input type="checkbox"/> Surveying |
| <input type="checkbox"/> Well Development | <input type="checkbox"/> Other (Describe) |

Non-productive Time

- | | |
|--|--|
| <input checked="" type="checkbox"/> None | <input type="checkbox"/> Weather |
| <input type="checkbox"/> Equipment Breakdown | <input type="checkbox"/> Missing Equipment |
| <input type="checkbox"/> Late | <input type="checkbox"/> Other (Describe) |

Quality Assurance Checks

- | Yes | N/A | No | |
|-------------------------------------|-----|----|-------------------------|
| <input checked="" type="checkbox"/> | | | Sample labels complete |
| <input checked="" type="checkbox"/> | | | Sample/cooler seals OK |
| <input checked="" type="checkbox"/> | | | All samples obtained |
| <input checked="" type="checkbox"/> | | | Chains of custody |
| <input checked="" type="checkbox"/> | | | All forms/logs complete |
| <input checked="" type="checkbox"/> | | | Site condition OK |
| <input checked="" type="checkbox"/> | | | Site H&S Plan on site |
| <input checked="" type="checkbox"/> | | | Instruments calibrated |

Checked By HG

Current Project Information

Return 60 miles
Last Sample Number Used
Last Location ID Used
Current Location (if not complete)
Sampling for vees, TPA, PCB, metals
Laboratories used Test
Paperwork & Equipment left at/in Veeder Root
Site Contact Mark Hall
Contractors on Site LEA

Time and place to meet contractors

Residuals Disposition

Item	Approx. Amount	Container ID
Soil/Solid		
Groundwater	<u>= 8 gallons</u>	<u>813344</u>
Decon Fluid		
PPE		
Other		

Weather Conditions

Temperature 49° Precipitation — Wind moderate
Comments

Expendable Items Used

Qty	Item	LEA Number
	Bailer, Disposable (specify size)	090
	Drum, Closed Top 55 Gallon	086
	Filter, In Line	024
	Miscellaneous Health & Safety Items	060
<u>6</u>	Tubing, 1/2", NOS <u>Hydrex</u>	007
<u>6</u>	Tubing, 3/8", NOS <u>silence</u>	008
	Water, Distilled	025

Equipment Used

Qty	Item	LEA Number
	Generator 3500 Watt	153
	Meter, Conductivity	022
	Meter, pH/Temp	021
<u>1</u>	Miscellaneous Small Tools & Equipment	152
	Pump, Grundfos	073
<u>2</u>	Pump, Peristaltic (spec. Master or Isco)	040
	Pump, Submersible	201
	Pump, Watera	038
<u>2</u>	Turbidimeter	023
<u>1</u>	VOC Analyzer, Photovac 2020 (PID)	012
	Water Level Indicator	028
<u>2</u>	Water Quality Meter w/Flow Cell	070

Field Personnel

Alex Clarke
Nate Emmons

Dennis Ryder

Signature



Loureiro Engineering Associates, Inc.

DAILY FIELD REPORT

Supplemental Sheet

LEA Comm. No. 88UT230.001
Project UTC P&WEH 2012 Willow Brook GWM
Location P&W East Hartford, East Hartford, CT
Client Pratt & Whitney East Hartford-LL

Page 2 of 8

Date 3/26/12

Description of Site Activities

0835 - onsite
get truck inspected & mds to 3-drum for pre-jobs meeting with Mark Hall
1015 - finish pre-jobs meeting, check on waste drum availability
line up new waste drum with Jason Miller
contact security to open Willow Brook gates
* Check in with Fletcher Cims & decide to start sampling
wells immediately due to late start.
A. Clarke & D. Ryder will complete round of water levels
& inspections on 3-27-12.
1100 - start sampling
1400 - A. Clarke completes F&H cap inspection
1430 - mds to WT-MW-569.
1530 - waste management
1600 - meet Benny to relinquish samples
- off-site

Field Personnel

Alex Clarke
Nate Emmons

Dennis Ryder

Signature



Loureiro Engineering Associates, Inc.

DAILY FIELD REPORT CALIBRATION RECORD

LEA Comm. No.		88UT230.001		Page 3 of 8			
Project		UTC P&WEH 2012 Willow Brook GWM		Date 3/26/12			
Location		P&W East Hartford, East Hartford, CT					
Client		Pratt & Whitney East Hartford-LL					
pH Meter/Serial #							
	Time	pH 4.01	pH 7.00	pH 10.01	Spec. Cond.	ORP	DO
Initial Calibration	10E100237 1050	4.00	7.00	10.00	1000	100	99.8
Calibration Check	10B101572 1050	4.00	7.00	10.00	1000	100	100.0
Calibration Check							
Turbidity Meter/Serial #							
	Time	0 NTU	20 NTU	100 NTU	800 NTU		
Initial Calibration	3522 1050	0.03	20.9	101	798		
Calibration Check	2017 1050	0.05	20.3	99.7	789		
Calibration Check							
PID Meter/Serial #							
	Time	Standard	Meter Reading	Zero with			
Initial Calibration							
Calibration Check							
Calibration Check							
Balance/Serial #							
	Time	Standard	Balance				
Initial Calibration							
Calibration Check							
Calibration Check							
Comments							
Field Personnel		Alex Clarke	Dennis Ryder	Signature			
		Nate Emmons					



Loureiro Engineering Associates, Inc.

FIELD SAMPLING RECORD
MISCELLANEOUS SAMPLES

LEA Comm. No. **88UT230.001**
Project **UTC P&WEH 2012 Willow Brook GWM**
Location **P&W East Hartford, East Hartford, CT**
Client **Pratt & Whitney East Hartford-LL**

Page 4 of 8
Date 3/26/12

Sample ID	Location ID	Time	Sample Type	Depth (ft)	PID/FID Reading	Comments	Waste Cont. ID								
1255903		1530	BKE			Equipment Blank									
1255904		1100	BKT			Trip Blank									
Field Personnel		Alex Clarke		Dennis Ryder		Signature									
		Nate Emmons													



Loureiro Engineering Associates, Inc.

FIELD SAMPLING RECORD LOW FLOW WELL SAMPLE

LEA Comm. No. **88UT230.001** Page 6 of 6
Project **UTC P&WEH 2012 Willow Brook GWM** Date 3/26/12
Location **P&W East Hartford, East Hartford, CT** Sample Time 1325
Client **Pratt & Whitney East Hartford-LL**

Monitoring Well Number WT-MW-48 Sample Number(s) **1255890** 1255890-9

Initial Field Data and Measurements

Depth of Well 7.50 7.54 Reference Used head pressure
Depth to Water 3.71 4.90 PID/FID Reading NA
Height of Column 2.64 Interface Yes ☒ No ☐ If yes, Depth Lighter / Heavier
Well Casing Diameter 2" Material pe General Condition OK Bad
Protector Road Box / Stickup Casing Secure ☒
Ground to Reference Collar Intact ☒
Comments Cover Locked ☒
Other (describe)

Development Information

Parameter	Depth to Water	Pump Setting	Purge Rate (mL/min)	Cum. Liters Purged (L)	Temp (C)	Spec. Cond. (uS/cm)	pH (SU)	ORP (Eh)	DO (mg/L)	Turbidity (NTU)	Comment
Time											
1220	3.71	350	120	0	←		shut purging				
1230	3.72	350	120	1.2	12.4	305	5.93	47.2	9.87	55.6	
1240	3.72	350	120	2.4	11.9	384	5.87	10.3	9.20	36.4	
1250	3.72	350	120	3.6	12.2	421	6.02	34.6	8.46	16.2	
1300	3.72	350	120	4.8	12.1	401	6.12	49.7	8.17	10.5	
1310	3.72	350	120	6	12.0	417	6.29	70.6	8.47	6.73	
1315	3.72	350	120	6.6	10.5	454	6.49	92.3	8.24	4.61	
1320	3.72	350	120	7.2	10.6	453	6.51	93.4	8.08	4.52	
1325	3.72	350	120	7.8	10.7	453	6.50	92.8	8.14	4.78	

Development Method Peristaltic Pump / Bailer / Inertial Pump / Other

Sample Field Treatment *If any ambiguity could exist, be sure to indicate the field treatment applied to each sample aliquot with the appropriate suffix in the sample ID on both the sample bottle label and on the Chain of Custody!*

Field Decontamination? Yes / No If Yes, with what? Iquinox DI, Nitric DI, Methanol

Waste Container ID 813344

Additional Comments

Field Personnel Alex Clarke
Nate Emmons

Dennis Ryder

Signature

Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)												Matrix Codes	
Company Name: LEA		Project Name: UTC P+WEH Willow Pond GW Sampling		<div style="display: flex; flex-direction: column; align-items: center;"> <div>VOCs</div> <div>PCBs</div> <div>CT ETPH</div> <div>Metals KRAS + Cu Ni Zn</div> </div>												DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank	
Street Address: 100 Northwest Dr		Street: East Hartford															
City: Plainville CT 06062		City: East Hartford															
Project Contact: Heather Grimm		Project#: 88UT230															
Phone #: (860) 747-6181		Client PO#: 88UT230															
Sampler(s) Name(s): Nate / Alex		Project Manager: Robin McKinney															
Billing Information (If different from Report to)																	
Company Name																	
Street Address																	
City State Zip																	
Project Contact																	
Phone #																	
Sampler(s) Name(s)																	
Project Manager																	
Attention:																	
PO#																	
Collection																	
Number of preserved Bottles																	
HCl																	
NaOH																	
HNO3																	
H2SO4																	
NONE																	
DI Water																	
MEOH																	
ENCORE																	
Biosulfate																	
LAB USE ONLY																	
Field ID / Point of Collection																	
MEOH/DI Vial #																	
Date																	
Time																	
Sampled by																	
Matrix																	
# of bottles																	
1255889		3/26/12 11:45 AC GW 6 2															
1255889 UF		11:45 AC 1 1															
1255890		13:25 AC 6 2															
1255890 UF		13:25 AC 1 1															
1255892		15:20 NE 2 2															
1255893		15:10 NE 6 2															
1255893 UF		13:10 NE 1 1															
1255894		11:50 NE 6 2															
1255894 UF		11:50 NE GW 1 1															
1255903		15:30 AC EB 6 2															
1255903 UF		15:30 AC EB 1 1															
1255904		3/26/12 11:00 NE TB 1 1															
Data Deliverable Information																	
Comments / Special Instructions																	
Turnaround Time (Business days)																	
Approved By (Accutest PM): / Date:																	
<input checked="" type="checkbox"/> Std. 10 Business Days <input type="checkbox"/> Std. 5 Business Days (By Contract only) <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY		<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> FULLT1 (Level 3+4) <input checked="" type="checkbox"/> CT RCP <input type="checkbox"/> MA MCP <input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format <input type="checkbox"/> Other															
Emergency & Rush T/A data available VIA Lablink		Commercial "A" = Results Only Commercial "B" = Results + QC Summary															
Sample Custody must be documented below each time samples change possession, including courier delivery.																	
Relinquished By: 1 Nate McKinney		Date Time: 3-26-12		Received By: 1 B. Clark		Relinquished By: 2		Date Time:		Received By: 2							
Relinquished by Sampler:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:							
3				3		4				4							
Relinquished by:		Date Time:		Received By:		Custody Seal #		<input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Preserved where applicable		<input type="checkbox"/> On Ice <input type="checkbox"/> Cooler Temp.					
5				5													



DAILY FIELD REPORT

Loureiro Engineering Associates, Inc.

LEA Comm. No. **88UT230.001**
Project **UTC P&WEH 2012 Willow Brook GWM**
Location **P&W East Hartford, East Hartford, CT**
Client **Pratt & Whitney East Hartford-LL**

Page 1 of 13
Date 3/27/12

Arrived at Site 0905 Departed from Site 1620

Vehicle ST-22 ST-18

Site Activities

- | | |
|--|---|
| <input checked="" type="checkbox"/> Soil Sampling | <input type="checkbox"/> Geoprobe Work |
| <input checked="" type="checkbox"/> Groundwater Sampling | <input type="checkbox"/> Concrete Coring |
| <input type="checkbox"/> Surface Water Sampling | <input type="checkbox"/> Construction |
| <input type="checkbox"/> Vapor/Air Sampling | <input type="checkbox"/> Waste Management |
| <input type="checkbox"/> Concrete Sampling | |
| <input type="checkbox"/> Other Sampling | <input type="checkbox"/> Inspection |
| <input type="checkbox"/> Other Sampling | <input type="checkbox"/> Site Walk Over |
| | <input type="checkbox"/> Surveying |
| <input type="checkbox"/> Well Development | <input type="checkbox"/> Other (Describe) |

Current Project Information

Odometer (Start) 60 miles
Return 60 miles
Last Sample Number Used
Last Location ID Used
Current Location (if not complete)
Sampling for Voc, Metals, PCBs, TPH
Laboratories used
Paperwork & Equipment left at/in Heather Quinn
Site Contact Mark Hoff
Contractors on Site LEA

Non-productive Time

- | | |
|--|--|
| <input checked="" type="checkbox"/> None | <input type="checkbox"/> Weather |
| <input type="checkbox"/> Equipment Breakdown | <input type="checkbox"/> Missing Equipment |
| <input type="checkbox"/> Late | <input type="checkbox"/> Other (Describe) |

Time and place to meet contractors

Quality Assurance Checks

- | Yes | N/A | No |
|-------------------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
- Sample labels complete
Sample/cooler seals OK
All samples obtained
Chains of custody
All forms/logs complete
Site condition OK
Site H&S Plan on site
Instruments calibrated

Residuals Disposition

Item	Approx. Amount	Container ID
Soil/Solid		
Groundwater	<u>~12 gals</u>	<u>813344</u>
Decon Fluid		
PPE		
Other		

Weather Conditions

Temperature 45° Precipitation — Wind light
Comments

Checked By

Expendable Items Used

Qty	Item	LEA Number
	Bailer, Disposable (specify size)	090
	Drum, Closed Top 55 Gallon	086
	Filter, In Line	024
1	Miscellaneous Health & Safety Items	060
120'	Tubing, 1/2", NOS <u>1/4 poly</u>	007
8'	Tubing, 3/8", NOS <u>silicone tubing</u>	008
1	Water, Distilled	025

Equipment Used

Qty	Item	LEA Number
	Generator 3500 Watt	153
	Meter, Conductivity	022
	Meter, pH/Temp	021
1	Miscellaneous Small Tools & Equipment	152
	Pump, Grundfos	073
2	Pump, Peristaltic (spec. Master or Isco)	040
	Pump, Submersible	201
	Pump, Watera	038
2	Turbidimeter	023
1	VOC Analyzer, Photovac 2020 (PID)	012
2	Water Level Indicator	028
2	Water Quality Meter w/Flow Cell	070

Field Personnel Alex Clarke Dennis Ryder
Nate Emmons

Signature



Loureiro Engineering Associates, Inc.

DAILY FIELD REPORT

Supplemental Sheet

LEA Comm. No. 88UT230.001
Project UTC P&WEH 2012 Willow Brook GWM
Location P&W East Hartford, East Hartford, CT
Client Pratt & Whitney East Hartford-LL

Page 2 of 13
Date 3/27/12

Description of Site Activities

0805: arrive
- perform bridge & vehicle inspection passes.
0820: begin equipment setup & calibration.
- begin sampling, water levels & Willow pond & brook
- begin inspection
1550: finish sampling & relinquish samples to accident carrier
(Benny)
- inspect ETAL
1620: close site

Field Personnel Alex Clarke
Nate Emmons

Dennis Ryder

Signature



Loureiro Engineering Associates, Inc.

DAILY FIELD REPORT CALIBRATION RECORD

LEA Comm. No.	88UT230.001	Page	3 of 13
Project	UTC P&WEH 2012 Willow Brook GWM	Date	3/27/12
Location	P&W East Hartford, East Hartford, CT		
Client	Pratt & Whitney East Hartford-LL		

pH Meter/Serial #	Time	pH 4.01	pH 7.00	pH 10.01	Spec. Cond.	ORP	DO
Initial Calibration	10E100237 0825	4.00	7.00	10.00	1000	100	98.9 %
Calibration Check	10D101572 0825	4.00	7.00	10.00	1000	100	99.2 %
Calibration Check							

Turbidity Meter/Serial #	Time	0 NTU	20 NTU	100 NTU	800 NTU
Initial Calibration	2017 0825	0.03	20.4	102	793
Calibration Check	3522 0825	0.04	19.8	99.6	796
Calibration Check					

PID Meter/Serial #	Time	Standard	Meter Reading	Zero with
Initial Calibration				
Calibration Check				
Calibration Check				

Balance/Serial #	Time	Standard	Balance
Initial Calibration			
Calibration Check			
Calibration Check			

Comments	
----------	--

Field Personnel	Alex Clarke	Dennis Ryder	Signature
	Nate Emmons		

Loureiro Engineering Associates, Inc.

FIELD SAMPLING RECORD
MISCELLANEOUS SAMPLES

LEA Comm. No. 88UT230.001

Project UTC P&WEH 2012 Willow Brook GWM

Location	P&W East Hartford, East Hartford, CT
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Client	Pratt & Whitney East Hartford-LL
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Date 3/27/12

Sample ID	Location ID	Time	Sample Type	Depth (ft)	PID/FID Reading	Comments	Waste Cont. ID
1255902		0900	BKT			Trip Blank	
1255901	WT-MW-50	1120	DW			Duplicate Sample	

Field Personnel	Alex Clarke
	Nate Emmons

Dennis Ryder

Signature



Loureiro Engineering Associates, Inc.

FIELD SAMPLING RECORD MONITORING WELL INVENTORY

LEA Comm. No. 88UT230.001

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Project UTC P&WEH 2012 Willow Brook GWM

Date 3/27/12

Location P&W East Hartford, East Hartford, CT

Client Pratt & Whitney East Hartford-LL

Sample ID	Location ID	Time	Predicted Depth of Well to Water	Actual Depth of Well to Water	PID/FID	Reference Elevation	Comments
2237657	WT-MW-57			11.40	NH		
2237658	WT-MW-47			9.09			
2237659	WT-MW-48			4.87			
2237660	WT-MW-46			7.02			
2237661	WT-MW-45			7.56			
2237662	WT-MW-49			3.70			
2237663	WT-MW-58			12.21			
2237664	WT-MW-44			10.72			
2237665	WT-MW-1952			Dry			
2237666	WT-MW-43			10.52			
2237667	WT-MW-50			3.41			
2237668	WT-MW-42			6.74 3.40			
2237669	WT-MW-41			9.54 4.63			

Field Personnel

Alex Clarke

Dennis Ryder

~~Nate Emmons~~

Signature



Loureiro Engineering Associates, Inc.

FIELD SAMPLING RECORD MONITORING WELL INVENTORY

LEA Comm. No. 88UT230.001

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Project UTC P&WEH 2012 Willow Brook GWM

Date 3/27/12

Location P&W East Hartford, East Hartford, CT

Client Pratt & Whitney East Hartford-LL

Sample ID	Location ID	Time	Predicted Depth of Well to Water	Actual Depth of Well to Water	PID/FID	Reference Elevation	Comments
2237683	MW-65			2.42	NM		
2237684	MW-66			3.27			
2237685	MW-67			2.82			
2237686	WT-MW-40			12.58			
2237687	WT-MW-565			14.13			
2237688	WT-MW-59			12.68			
2237689							
2237690							
2237691							
2237692							
2237693							
2237694							
2237695							

Field Personnel

Alex Clarke

Dennis Ryder

~~Nate Emmons~~

Signature



Loureiro Engineering Associates, Inc.

FIELD SAMPLING RECORD LOW FLOW WELL SAMPLE

LEA Comm. No. **88UT230.001** Page **7** of **13**
Project **UTC P&WEH 2012 Willow Brook GWM** Date **3/27/12**
Location **P&W East Hartford, East Hartford, CT** Sample Time **09:45**
Client **Pratt & Whitney East Hartford-LL**

Monitoring Well Number **WT-MW-40** Sample Number(s) **1255895** **1255895uf**

Initial Field Data and Measurements

Depth of Well **12.58** Reference Used **Top of Riser**
Depth to Water **8.99** PID/FID Reading **NM**
Height of Column **3.59** Interface Yes ☒ No ☐ If yes, Depth **0** Lighter / Heavier
Well Casing Diameter **0.5"** Material **PVC** General Condition OK ☒ Bad ☐
Protector **Road Box** Stickup Casing Secure ☒
Ground to Reference ☒ Collar Intact ☒
Comments ☒ Cover Locked ☒
Other (describe) ☒

Development Information

Parameter	Depth to Water	Pump Setting	Purge Rate (ml/min)	Cum. Liters Purged (L)	Temp (C)	Spec. Cond. (uS/cm)	pH (SU)	ORP (Eh)	DO (mg/L)	Turbidity (NTU)	Comment
Time											
08:55	8.99	300	150	0							Initial
09:05		300	150	1.5	12.5	4613	7.29	92.4	8.32	79.4	
09:15		300	150	3.0	12.6	4502	7.27	101.2	7.09	28.2	
09:20		300	150	3.75	12.6	4531	7.27	102.4	6.36	14.9	
09:25		300	150	4.50	12.6	4511	7.28	102.9	6.08	17.8	
09:30		300	150	5.25	12.6	4502	7.27	103.4	6.05	9.36	
09:35		300	150	6.0	12.6	4489	7.27	103.7	6.03	4.98	
09:40		300	150	6.75	12.6	4487	7.27	103.7	6.03	3.91	
09:45		300	150	7.50	12.6	4487	7.27	103.9	6.02	3.80	SAMPLE

Development Method **Peristaltic Pump** / Bailer / Inertial Pump / Other

Sample Field Treatment *If any ambiguity could exist, be sure to indicate the field treatment applied to each sample aliquot with the appropriate suffix in the sample ID on both the sample bottle label and on the Chain of Custody!*

Field Decontamination? **Yes** / No If Yes, with what? **DI, Methanol wipe for WLI**
Waste Container ID **813344**

Additional Comments

Field Personnel **Alex Clarke**
Nate Emmons

Dennis Ryder

Signature



Loureiro Engineering Associates, Inc.

FIELD SAMPLING RECORD LOW FLOW WELL SAMPLE

LEA Comm. No. **88UT230.001** Page **8** of **13**
 Project **UTC P&WEH 2012 Willow Brook GWM** Date **3/27/12**
 Location **P&W East Hartford, East Hartford, CT** Sample Time **11:30**
 Client **Pratt & Whitney East Hartford-LL**

Monitoring Well Number **WT-MW-42** Sample Number(s) **1255896** **1255896**

Initial Field Data and Measurements

Depth of Well **6.24** Reference Used **Top of Riser**
 Depth to Water **3.41** PID/FID Reading **NM**
 Height of Column **3.33** Interface Yes / **No** If yes, Depth **Lighter / Heavier**
 Well Casing Diameter **0.5"** Material **PVC** General Condition **OK** **Bad**
 Protector **Road Box / Stickup** Casing Secure **x**
 Ground to Reference **x** Collar Intact **x**
 Comments **x** Cover Locked **x**
 Other (describe) **x**

Development Information

Parameter	Depth to Water	Pump Setting	Purge Rate (mL/min)	Cum. Liters Purged (L)	Temp (C)	Spec. Cond. (uS/cm)	pH (SU)	ORP (Eh)	DO (mg/L)	Turbidity (NTU)	Comment
Time											
10:50	3.41	300	150								Initial
11:00		300	150	1.5	10.8	178.2	6.31	93.2	6.19	2.36	
11:05		300	150	2.25	10.4	174.1	6.37	108.4	6.20	1.91	
11:10		300	150	3.0	10.4	165.7	6.38	111.4	6.20	1.14	
11:15		300	150	3.75	10.4	164.7	6.38	112.3	6.20	1.89	
11:20		300	150	4.5	10.4	164.4	6.38	112.9	6.20	1.05	
11:25		300	150	5.25	10.5	165.3	6.38	112.2	6.21	1.74	
11:30		300	150	6.0	10.4	165.9	6.38	113.7	6.21	1.61	SAMPLE

Development Method **Peristaltic Pump** / Bailer / Inertial Pump / Other

Sample Field Treatment *If any ambiguity could exist, be sure to indicate the field treatment applied to each sample aliquot with the appropriate suffix in the sample ID on both the sample bottle label and on the Chain of Custody!*

Field Decontamination? **Yes / No** If Yes, with what? **DI, Methanol Wipe on LLI**
 Waste Container ID **813844**

Additional Comments

Field Personnel **Alex Clarke**
Nate Emmons

Dennis Ryder

Signature

[Signature]



Loureiro Engineering Associates, Inc.

FIELD SAMPLING RECORD

LOW FLOW WELL SAMPLE

LEA Comm. No. **88UT230.001** Page 10 of 13
 Project **UTC P&WEH 2012 Willow Brook GWM** Date 3/28/12
 Location **P&W East Hartford, East Hartford, CT** Sample Time 11:20
 Client **Pratt & Whitney East Hartford-LL** 12558980P

Monitoring Well Number WT-MW-50 Sample Number(s) 1255898 1255901, 1255906P

Initial Field Data and Measurements

Depth of Well 5.22 Reference Used top of riser
 Depth to Water 3.41 PID/FID Reading ---
 Height of Column 1.81 Interface Yes/No If yes, Depth --- Lighter / Heavier ---
 Well Casing Diameter 2" Material pc General Condition OK Bad
 Protector Road Box / Stickup Casing Secure ✓
 Ground to Reference --- Collar Intact ✓
 Comments Duplicate sample collected Cover Locked ✓
 Other (describe) ---

Development Information

Parameter	Depth to Water	Pump Setting	Purge Rate (mL/min)	Cum. Liters Purged (L)	Temp (C)	Spec. Cond. (uS/cm)	pH (SU)	ORP (Eh)	DO (mg/L)	Turbidity (NTU)	Comment
Time											
1005	3.41	350	120	0	←	3415	6.93	143.1	1.59	236	Start purging
1015	3.45	350	120	1.2	6.0	3665	6.93	145.8	.82	95.9	
1025	3.46	350	120	2.4	5.9	3865	6.64	147.7	.28	14.7	
1035	3.46	350	120	3.6	6.1	4019	6.60	153.7	2.79	6.32	
1045	3.46	350	120	4.8	6.4	4036	6.54	156.2	2.44	4.17	
1055	3.46	350	120	6	6.2	4089	6.59	148.2	2.73	3.96	
1105	3.46	350	120	7.2	6.2	4035	6.58	149.3	2.69	3.72	
1110	3.46	350	120	7.8	6.6	4037	6.58	148.6	2.16	3.83	
1115	3.46	350	120	8.4	6.8	4040	6.58	148.9	2.32	3.79	
1120	3.46	350	120	9	6.7						

Development Method Peristaltic Pump / Bailer / Inertial Pump / Other

Sample Field Treatment *If any ambiguity could exist, be sure to indicate the field treatment applied to each sample aliquot with the appropriate suffix in the sample ID on both the sample bottle label and on the Chain of Custody!*

Field Decontamination? Yes/No If Yes, with what? DI's Method wipe & disinfect
 Waste Container ID 8133-14

Additional Comments

Field Personnel Alex Clarke
Nate Emmons

Dennis Ryder

Signature [Signature]



Loureiro Engineering Associates, Inc.

FIELD SAMPLING RECORD LOW FLOW WELL SAMPLE

LEA Comm. No. **88UT230.001** Page 11 of 13
Project **UTC P&WEH 2012 Willow Brook GWM** Date 3/27/12
Location **P&W East Hartford, East Hartford, CT** Sample Time 13.50
Client **Pratt & Whitney East Hartford-LL**

Monitoring Well Number WT-MW-58 Sample Number(s) 1255899 1255899A

Initial Field Data and Measurements

Depth of Well 17.71 Reference Used hydroponics
Depth to Water 12.23 PID/FID Reading _____
Height of Column 5.51 Interface Yes / No If yes, Depth _____ Lighter / Heavier _____
Well Casing Diameter 1.5" Material PE General Condition OK Bad
Protector Road Box / Stickup Casing Secure ☒
Ground to Reference _____ Collar Intact ☒
Comments _____ Cover Locked ☒
Other (describe) _____

Development Information

Parameter	Depth to Water	Pump Setting	Purge Rate (mL/min)	Cum. Liters Purged (L)	Temp (C)	Spec. Cond. (uS/cm)	pH (SU)	ORP (Eh)	DO (mg/L)	Turbidity (NTU)	Comment
Time											
1235	12.23	350	120	0	←	1543	7.01	31.3	12.39	67.4	Start purging →
1245	12.26	350	120	1.2	11.9	1498	6.49	66.9	1.94	51.6	
1255	12.28	350	120	2.4	11.7	1434	6.28	81.5	1.49	23.8	
1305	12.31	350	120	3.6	12.6	1423	6.25	88.9	1.41	12.6	
1315	12.31	350	120	4.8	12.2	1420	6.23	89.3	1.36	6.41	
1325	12.32	350	120	6	12.3	1418	6.23	88.7	1.39	5.16	
1335	12.32	350	120	7.2	12.1	1416	6.23	89.1	1.35	4.83	
1340	12.32	350	120	7.8	12.4	1417	6.23	89.6	1.34	4.81	
1345	12.32	350	120	8.4	12.3	1413	6.22	89.9	1.37	4.93	
1350	12.32	350	120	9							

Development Method Peristaltic Pump / Bailer / Inertial Pump / Other

Sample Field Treatment *If any ambiguity could exist, be sure to indicate the field treatment applied to each sample aliquot with the appropriate suffix in the sample ID on both the sample bottle label and on the Chain of Custody!*

Field Decontamination? Yes / No If Yes, with what? BS-1 Methanol wipe to well.
Waste Container ID 813344

Additional Comments

Field Personnel Alex Clarke Dennis Ryder Signature [Signature]
Nate Emmons



Loureiro Engineering Associates, Inc.

FIELD SAMPLING RECORD LOW FLOW WELL SAMPLE

LEA Comm. No. **88UT230.001** Page **13** of **13**
Project **UTC P&WEH 2012 Willow Brook GWM** Date **3/27/12**
Location **P&W East Hartford, East Hartford, CT** Sample Time **12:45**
Client **Pratt & Whitney East Hartford-LL**

Monitoring Well Number **WT-MW-44** Sample Number(s) **1255891** **1255891 of**

Initial Field Data and Measurements

Depth of Well **13.78** Reference Used **Top of Rise**
Depth to Water **10.74** PID/FID Reading **NM**
Height of Column **03.04** Interface Yes ☒ No ☐ If yes, Depth **2** Lighter / Heavier
Well Casing Diameter **0.5"** Material **PVC** General Condition OK ☐ Bad ☐
Protector **Road Box / Stickup** Casing Secure ☒
Ground to Reference ☒ Collar Intact ☒
Comments ☒ Cover Locked ☒
Other (describe) ☒

Development Information

Parameter	Depth to Water	Pump Setting	Purge Rate (mL/min)	Cum. Liters Purged (L)	Temp (C)	Spec Cond. (uS/cm)	pH (SU)	ORP (Eh)	DO (mg/L)	Turbidity (NTU)	Comment
Time											
13:00	10.74	300	150								Initial
13:10		300	150	1.5	11.7	199.2	7.06	78.3	4.63	18.4	
13:15		300	150	2.25	11.6	198.1	7.03	77.1	2.68	11.7	
13:20		300	150	3.0	11.4	195.8	6.96	73.1	2.59	7.58	
13:25		300	150	3.75	11.4	195.6	6.96	76.8	2.55	5.96	
13:30		300	150	4.50	11.4	195.3	6.95	76.3	2.51	4.19	
13:35		300	150	5.25	11.5	194.7	6.95	75.9	2.50	3.80	
13:40		300	150	6.0	11.4	194.3	6.95	75.1	2.50	3.21	
13:45		300	150	6.75	11.4	194.1	6.95	75.0	2.49	3.20	SAMPLE

Development Method **Peristaltic Pump** Bailer / Inertial Pump / Other

Sample Field Treatment *If any ambiguity could exist, be sure to indicate the field treatment applied to each sample aliquot with the appropriate suffix in the sample ID on both the sample bottle label and on the Chain of Custody!*

Field Decontamination? **Yes** / No ☐ If Yes, with what? **DI WATER, Method Viper for WLI**
Waste Container ID **813344**

Additional Comments

Field Personnel **Alex Clarke**
Nate Emmons

Dennis Ryder

Signature

**United Technologies/Pratt & Whitney
2012 Post-Remediation Maintenance and Monitoring Program
ETAL**

Weather Conditions: Sunny/Cloudy
Inspection Date: 3-27-2012
Inspection Time: 1600

Inspector: [Signature]
Reviewed By: _____

INSPECTION POINT	DESCRIPTION	GOOD	FAIR	POOR
1) Signs of erosion over engineered control	Check for gullies.	✓		
2) Signs of settling over engineered control	Look for ponding and for settling of pavement of more than 0.5 inches over a 5 square foot area.	✓		
3) Signs of ponding over engineered control	Look for areas of more than 5 square feet of standing water.	✓		
4) Signs of pavement damage over engineered control and pavement used to render soil inaccessible	Look for areas of spider cracking, spalling and loss of binder.	✓		
5) Permanent Survey Markers	Look for damaged or missing markers.	✓		
6) Monitoring well network	Check concrete collar protective casing, locks, legible well identification.	✓		
	1. Condition of lock	✓		
	2. Visible ID of wells	✓		
	3. Ponding or infiltration of surface water	✓		
	4. Condition of concrete collar	✓		
	5. Condition of steel casing	✓		

Report all deficiencies to the designated representative of United Technologies Corporation/Pratt & Whitney
List all deficiencies, the corrective measures taken, and the date corrective measures were completed:

1) _____

Corrective Action: _____

2) _____

Corrective Action: _____

3) _____

Corrective Action: _____

4) _____

Corrective Action: _____

**United Technologies/Pratt & Whitney
Post Remediation Maintenance and Monitoring Program
Willow Brook and Willow Brook Pond**

Weather Conditions: Sunny/Cloudy
Inspection Date: 3-27-12
Inspection Time: 0840-1430

Inspector: [Signature]
Reviewed By: Heather Powers

INSPECTION POINT	DESCRIPTION	GOOD	FAIR	POOR
1) Signs of erosion	Check for gullies of more than 2 inches in depth.	✓		
2) Signs of settling	Look for ponding and for settling of soil of more than 3 inches over a 5 sq. foot area.	✓		
3) Loss of vegetative cover	Check for loss of vegetation cover in any area greater than 5 square feet.	✓		
4) Undesirable growth	Check for growth that is in excess of ½ inch in diameter (woody vegetation) and taller than 2 feet.	✓		
5) Signs of ponding and run on	Look for areas of more than 5 square feet of standing water or areas where surface water is running onto cap.	✓		
6) Condition of fencing and gates	Check perimeter fence to make sure it is not damaged (no holes greater than 4-inches in diameter), gates are operable, and locks are in place.	✓		
7) Condition of rip-rap in Willow Brook stream channel	Observe entire length of stream channel. Verify that rip-rap has not been displaced.	✓		
8) Condition of stone layer in Willow Brook	Perform probing of bottom of Willow Brook Ponds at 5 locations in upper pond and 15 locations within lower pond. Verify refusal on stone layer at all locations.	✓		
9) Burrowing animals	Verify no holes larger than 2 inches in diameter in cap.	✓		
10) Monitoring well network	Check concrete collar protective casing, locks, legible well identification.		✓	
	1. Condition of lock		✓	
	2. Visible ID of wells		✓	
	3. Ponding or infiltration of surface water		✓	
	4. Condition of concrete collar		✓	
	5. Condition of steel casing		✓	

Report all deficiencies to the designated representative of Pratt & Whitney

List all deficiencies, the corrective measures taken, and the date corrective measures were completed:

1) _____

Corrective Action: _____

2) _____

Corrective Action: _____

3) _____

Corrective Action: _____

4) _____

Corrective Action: _____

FED-EX Tracking #		Bottle Order Control #	
Accutest Quote #		Accutest Job #	
Requested Analysis (see TEST CODE sheet)			Matrix Codes
UBS bay 8260B CT ETPH PCBs bay 8082 Total PCBs & metals + Cu, Ni, Zn			DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank
			LAB USE ONLY
X	X	X	
			X
X	X	X	
			X
X	X	X	
X	X	Y	
			X
X	X	X	
			X
X	X	X	
			X
Comments / Special Instructions			
Category A			
Category B			
Including courier delivery.			
Date Time:		Received By:	
		2	
Date Time:		Received By:	
		4	
Intact	Preserved where applicable	On Ice	Cooler Temp.
Not intact	<input type="checkbox"/>	<input type="checkbox"/>	



Accutest Laboratories Chain of Custody Instructions

Client/ Reporting Information

Enter the company name, address, phone number, and person designated to receive the analytical report. Sampler's full name(s) and phone number needs to be entered in case the laboratory discovers a sampling anomaly and needs to make a call. The name(s) will correspond with sampler's initials listed in the collection section under sampled by.

Project Information and Billing Information

Fill in all of the requested information that is available. This information is critical to matching up specific project and billing information in our LIMS to the job listed on the chain. The state of origin must be filled in to ensure that our reporting format meets the requirements of that specific state and to ensure that we have certifications for that state.

Field ID/ Point of Collection and Collection information

CLEARLY, write in the sample ID, dates, times and samplers initials. All information must be legible. Use one line per sample point unless the sample was taken at multiple times for different tests. In such a case use a separate line for the bottles taken at different times. Enter the date, and time of each sample. Please note AM and PM or use Military time. Check this information and the Field IDs against the information recorded on the bottles. Make sure all information matches exactly.

Matrix, # of Bottles, Number of preserved bottles

Standard abbreviations for matrix codes are listed on the right side of the chain. DW- Drinking Water, GW- Ground Water, WW- Water or Wastewater, SW- Surface Water, SO- Soil, SL- Sludge, SED- Sediment, OL- Oil, LIQ- Other Liquid, SOL- Other Solid, WP- Wipe, AIR- Air, FB- Field Blank, RB- Rinse Blank, EB- Equipment Blank, TB- Trip Blank. Enter the matrix code in the matrix column. Enter the total number of bottles for the sample in the designated column and list the number of bottles of each preservative type in the designated column. One field under preservation has been left blank and can be filled in if an unlisted preservative was used.

Requested analysis

The last page of the chain of custody form contains a list of the most common tests performed. If the analysis you require is listed here, please use the Accutest TEST CODE and write it in the columns labeled under "Requested Analysis". If the analysis you require cannot be found on the list, please state the analysis as clearly as possible in the columns by providing the analytical method and reporting list where applicable. Put an X in the box correlating with each test needed for the samples listed on the chain. If an analysis is on HOLD do not put an X in the column for that test, use an H and Footnote in the comments section H= HOLD. It is your responsibility to contact the lab to activate any contingent samples placed on HOLD pending review of the data for the first tier analysis. Samples placed on HOLD will only be held for 30 days after report completion. Please indicate this on the chain of custody any state specific limits that need to be met.

Accutest Quote Number and Bottle Order Control Number

If the quote number is known, please write the quote number in this field. The bottle order control number is listed on the bottle order form, which was delivered with the coolers. Please write in the number from this form in this field, if applicable.

Accutest Sample #, Accutest Job Number, and LAB USE ONLY Fields

Do not write in these fields.

Turnaround Time (business days)

Put an X in the box next to the desired turnaround time. Turnaround time is calculated using business days, M-F. For multiple turnaround times, clearly designate the turnaround for specific samples and tests. Use the comment section or list a special turnaround time next to the test in the requested analysis section if necessary. If the turnaround time is not listed, the samples will be run at standard turnaround time.

Data Deliverable Information

Put an X next to the hardcopy report package type that is required. COMMA (Results only), COMMB (Results and QC summaries), MA MCP (Results, QC Summaries, State Cert Form), CT RCP (Results, QC Summaries, State Cert Form), FULLT1 (Results, QC Summaries, and all raw data), NYASPA (Results only), NYASPB (Results, QC Summaries, and all raw data), CLP (Results, QC Summaries, and raw data according to CLP statement of work). Deliverables must be selected for all jobs. Failure to designate deliverable type could result in incorrect log in, analysis, and reporting of the final data package.

Sample Custody Transfer

All sample transfers must be signed and dated by the person relinquishing the samples and the person receiving the samples. Missing signatures and custody information could invalidate all work done on the job. Fill in the custody seal number in the section designated at the bottom of the chain.

Comments

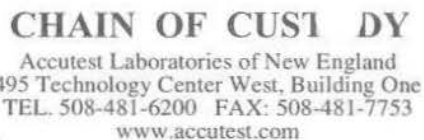
If there are any special instructions, write them in this field. If the metals samples are to be lab filtered, document this in the comment section. Metals samples submitted for lab filtration must be unpreserved.

General

If there is more than a one page chain of custody, write in the upper left-hand corner, 1 of 2, 2 of 2 etc. for the pages submitted. This is to indicate to Accutest that the samples are all to be put on one job upon assignment of our job and sample numbers.

The chain of custody is a legal document, use only black or blue ink and do not use whiteout or correction tape. To correct an error, either rewrite the document; or draw a single line through the incorrect information, and write in the corrected information. Date and initial all strikeouts.

If any problems or questions arise in the field, please call the laboratory at (508) 481-6200 and ask for your project manager

[illegible]

LEA Comm. No. **88UT230.001** Page **1** of **10**
 Project **UTC P&WEH 2012 Willow Brook GWM** Date **9/6/12**
 Location **P&W East Hartford, East Hartford, CT**
 Client **Pratt & Whitney East Hartford-LL**

Arrived at Site **8:45** Departed from Site **16:22** Vehicle **ST-18**
 Site Activities Odometer (Start) **60 mi Round**

<input checked="" type="checkbox"/> Soil Sampling	<input type="checkbox"/> Geoprobe Work	Current Project Information Last Sample Number Used N/A Last Location ID Used N/A Current Location (if not complete) See chain Sampling for Acute test Laboratories used Office Paperwork & Equipment left at/in Paul I Site Contact N/A Contractors on Site N/A
<input checked="" type="checkbox"/> Groundwater Sampling	<input type="checkbox"/> Concrete Coring	
<input type="checkbox"/> Surface Water Sampling	<input type="checkbox"/> Construction	
<input type="checkbox"/> Vapor/Air Sampling	<input type="checkbox"/> Waste Management	
<input type="checkbox"/> Concrete Sampling	<input type="checkbox"/> Inspection	
<input type="checkbox"/> Other Sampling	<input type="checkbox"/> Site Walk Over	
<input type="checkbox"/> Other Sampling	<input type="checkbox"/> Surveying	
<input type="checkbox"/> Well Development	<input type="checkbox"/> Other (Describe)	

Non-productive Time
☒ None
☐ Equipment Breakdown
☐ Late
☐ Weather
☐ Missing Equipment
☐ Other (Describe)

Quality Assurance Checks

Yes	N/A	No	
<input checked="" type="checkbox"/>			Sample labels complete
	<input checked="" type="checkbox"/>		Sample/cooler seals OK
		<input checked="" type="checkbox"/>	All samples obtained
<input checked="" type="checkbox"/>			Chains of custody
<input checked="" type="checkbox"/>			All forms/logs complete
<input checked="" type="checkbox"/>			Site condition OK
<input checked="" type="checkbox"/>			Site H&S Plan on site
<input checked="" type="checkbox"/>			Instruments calibrated

Residuals Disposition

Item	Approx. Amount	Container ID
Soil/Solid	N	A
Groundwater	12 Gall	826091
Decon Fluid	N	A
PPE		
Other		

Weather Conditions

Temperature **80** Precipitation **Light** Wind **0-5**
 Comments **Overcast some sprinkles**

Checked By

Expendable Items Used			Equipment Used		
Qty	Item	LEA Number	Qty	Item	LEA Number
	Bailer, Disposable (specify size)	090		Generator 3500 Watt	153
1	Decontamination Supplies	081		Meter, Conductivity	022
	Drum, Closed Top 55 Gallon	086		Meter, pH/Temp	021
	Filter, In Line	024	2	Miscellaneous Small Tools & Equipment	152
2	Miscellaneous Health & Safety Items	060		Pump, Grundfos	073
	Tubing, 1/2", NOS	007	2	Pump, Peristaltic (spec. Master or Isco)	040
	Tubing, 3/8", NOS	008		Pump, Submersible	201
1	Water, Distilled	025		Pump, Watera	038
				Thermo-Anemometer	248
			2	Turbidimeter	023
				VOC Analyzer, Photovac 2020 (PID)	012
			2	Water Level Indicator	028
			2	Water Quality Meter w/Flow Cell	070

Field Personnel **Jeremy Marcantonio** **Sam R** **Jeremy C** **N/A** Signature **[Signature]**

LEA Comm. No. 88UT230.001
 Project UTC P&WEH 2012 Willow Brook GWM
 Location P&W East Hartford, East Hartford, CT
 Client Pratt & Whitney East Hartford-LL

Page 2 of 10
 Date 9/6/12

Description of Site Activities

06:50 Arrive at yard to load equipment. Discuss and solve issues regarding equipment request.
 07:45 Leave yard to LEA office to pick-up bottles and talk to Joe Trzaski. Spoke to Joe about water levels that were taken 9/5/12 by Luke. It was determined by Joe that the information was sufficient. ~~to JK~~ No water levels are necessary today.
 8:18 Left office head to site
 8:50 Arrived onsite setup a plan for day. Calibrate Equipment. Search for WT-mw-50 which could not be found yesterday. Sam, Kara, Luke all onsite.
 9:50 Began pw flow.
 14:20 Spoke to Joe T. about WT-mw-195R. The well has less than 6 inches of water. Joe said sample WT-mw-195.
 15:50 Sampling of 5 days wells complete. Cleanup.
 16:20 Lab Pickup
 18:22 Offsite

Field Personnel

Jeremy Marcantonio
 Sam R

Jeremy C

Signature

[Handwritten Signature]



Engineering • Construction • EH&S • Energy • Waste

FIELD SAMPLING RECORD
MISCELLANEOUS SAMPLES

LEA Comm. No. **88UT230.001**
Project **UTC P&WEH 2012 Willow Brook GWM**
Location **P&W East Hartford, East Hartford, CT**
Client **Pratt & Whitney East Hartford-LL**

Page 3 of 10
Date 9/6/12

Sample ID	Location ID	Time	Sample Type	Depth (ft)	PID/FID Reading	Comments	Waste Cont. ID
1264991 1264991UF	Duplicate	10:46	Dup	N/A	N/A	N/A	
1264990	Trip Blank	10:51	BKT	N/A	N/A	N/A	
1264889	Equipment Blank	15:30	BKE	N/A	N/A	N/A	

Field Personnel **Jeremy Marcantonio**
Sam R

Jeremy C
N/A

Signature

DAILY FIELD REPORT CALIBRATION RECORD

LEA Comm. No. **88UT230.001**
 Project **UTC P&WEH 2012 Willow Brook GWM**
 Location **P&W East Hartford, East Hartford, CT**
 Client **Pratt & Whitney East Hartford-LL**

Page **4** of **10**
 Date **9/6/12**

pH Meter/Serial

	Time	pH 4.01	pH 7.00	pH 10.01	Spec. Cond.	ORP	DO
Initial Calibration	100101528 8:50	4.00	7.00	10.00	1000	200	100%
Calibration Check	10051034 8:50	4.00	7.00	10.00	1000	200	100%
Calibration Check							

Turbidity Meter/Serial

	Time	0 NTU	20 NTU	100 NTU	800 NTU
Initial Calibration	3520 8:54	0.27	21.1	101	799
Calibration Check	3519 8:54	0.29	20.4	100	804
Calibration Check					

PID Meter/Serial

	Time	Standard	Meter Reading	Zero with
Initial Calibration				
Calibration Check				
Calibration Check				

Balance/Serial

	Time	Standard	Balance
Initial Calibration			
Calibration Check			
Calibration Check			

Comments

Field Personnel **Jeremy Marcantonio**

SR

JC
N/A

Signature

[Signature]



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FIELD SAMPLING RECORD
LOW FLOW WELL SAMPLE

LEA Comm. No. 88UT230.001 Page 5 of 10
Project UTC P&WEH 2012 Willow Brook GWM Date 9/6/12
Location P&W East Hartford, East Hartford, CT Sample Time 10:46
Client Pratt & Whitney East Hartford-LL

Monitoring Well Number WT-MW-50 Sample Number(s) 1264979 1264991 1264991UF 1264991UFC DVP

Initial Field Data and Measurements

Depth of Well 5.03 Reference Used TOC
Depth to Water 3.34 PID/FID Reading NM
Height of Column 1.69 Interface Yes/No If yes, Depth N/A Lighter / Heavier
Well Casing Diameter 2" Material PVC General Condition OK Bad
Protector Road Box (Stickup) Casing Secure X
Ground to Reference NM Collar Intact X
Comments A Cover Locked N/A
Other (describe)

Development Information

Parameter	Depth to Water	Pump Setting	Purge Rate (mL/min)	Cum. Liters Purged (L)	Temp (C)	Spec. Cond. (uS/cm)	pH (SU)	ORP (Eh)	DO (mg/L)	Turbidity (NTU)	Comment
Time											
10:00	3.34	Began									N/A
10:10	3.38	350	150	1.5	22.10	4997	7.37	-158.5	0.72	169	
10:20	3.38	350	150	3.0	21.66	5191	7.35	-120.7	2.87	11.0	
10:30	3.38	350	150	4.5	21.67	5197	7.36	-118.9	3.17	8.87	
10:35	3.38	350	150	5.25	21.69	5205	7.36	-116.8	2.98	7.01	
10:40	3.38	350	150	6.0	21.74	5217	7.36	-115.2	3.06	5.07	
10:45	3.38	350	150	6.75	21.71	5210	7.36	-115.4	3.04	4.71	
10:46	Well is stable										collect sample

Development Method Peristaltic Pump / Bailer / Inertial Pump / Other

Sample Field Treatment If any ambiguity could exist, be sure to indicate the field treatment applied to each sample aliquot with the appropriate suffix in the sample ID on both the sample bottle label and on the Chain of Custody!

Field Decontamination? Yes/No If Yes, with what? DI/Liquinox/methanol

Waste Container ID 826091

Additional Comments Sampled for: VOCs, CTETPH, PCBs, RCRA metals Cu, Ni, Zn and Hex chrome

DUP Taken 1264991 / 1264991UF

Field Personnel Jeremy Marcantonio

Signature



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FIELD SAMPLING RECORD
LOW FLOW WELL SAMPLE

LEA Comm. No. 88UT230.001 Page 6 of 10
Project UTC P&WEH 2012 Willow Brook GWM Date 9/6/12
Location P&W East Hartford, East Hartford, CT Sample Time 15:05
Client Pratt & Whitney East Hartford-LL

Monitoring Well Number UT-MW-40 Sample Number(s) 1264978 1264978.1

Initial Field Data and Measurements

Depth of Well 17.89 Reference Used TOR
Depth to Water 12.31 PID/FID Reading m
Height of Column 5.58 Interface Yes (No) If yes, Depth Lighter / Heavier
Well Casing Diameter 15 Material PVC General Condition OK Bad
Protector Road Box / Stickup Casing Secure X
Ground to Reference Collar Intact X
Comments Cover Locked X
Other (describe)

Development Information

Parameter	Depth to Water	Pump Setting	Purge Rate (mL/min)	Cum. Liters Purged (L)	Temp (C)	Spec. Cond. (uS/cm)	pH (SU)	ORP (Eh)	DO (mg/L)	Turbidity (NTU)	Comment
Time 13:50	12.31	350	100	0	—	Start Purging					
14:10	12	350	100	1.0	20.9	5726	7.10	32.0	0.08	72.3	
14:20	12	350	100	2.0	21.0	5724	7.05	-20.9	0.10	43.6	
14:30	12	350	100	3.0	21.0	5739	7.06	-42.0	0.09	27.9	
14:40	12	350	100	4.0	20.9	5757	7.04	-58.3	0.08	18.6	
14:50	12	350	100	5.0	21.1	5760	7.06	-60.1	0.06	12.3	
14:55	12	350	100	5.5	21.2	5757	7.06	-62.3	0.10	9.9	
15:00	12	350	100	6.0		5758	7.06	-63.8	0.08	7.2	
15:05	12.69	350	100	6.5	21.3	5759	7.05	-64.1	0.09	5.2	Sampling

Development Method Peristaltic Pump / Bailer / Inertial Pump / Other

Sample Field Treatment If any ambiguity could exist, be sure to indicate the field treatment applied to each sample aliquot with the appropriate suffix in the sample ID on both the sample bottle label and on the Chain of Custody!

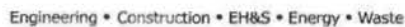
Field Decontamination? Yes / No If Yes, with what? DI, lig. winox methanol Nitric
Waste Container ID 826091

Additional Comments unable to take depth to water measurements well casing too small

Field Personnel Jeremy Marcantonio

Sen Rooney

Signature



LOW FLOW WELL SAMPLE

Page 7 of 10
Date 9/6/12
Sample Time 12:35

Monitoring Well Number WT-MW-59 Sample Number(s) 1264977 1264977v4

Initial Field Data and Measurements

Depth of Well	17.67	Reference Used	TOK		
Depth to Water	12.75	PID/FID Reading	N/A		
Height of Column	4.92	Interface	Yes / No	If yes, Depth	Lighter / Heavier
Well Casing Diameter	2"	Material	PVC	General Condition	OK Bad
Protector	Road Box / Stickup			Casing Secure	<input checked="" type="checkbox"/> <input type="checkbox"/>
Ground to Reference				Collar Intact	<input checked="" type="checkbox"/> <input type="checkbox"/>
Comments				Cover Locked	<input checked="" type="checkbox"/> <input type="checkbox"/>

Development Information

[illegible]Development Method Peristaltic Pump / Bailer / Inertial Pump / Other

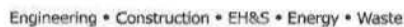
Sample Field Treatment *If any ambiguity could exist, be sure to indicate the field treatment applied to each sample aliquot with the appropriate suffix in the sample ID on both the sample bottle label and on the Chain of Custody!*

Field Decontamination? Yes / No If Yes, with what? DI, Iquinox, methanol, nitric
Waste Container ID 826091

Additional Comments

Field Personnel **Jeremy Marcantonio**

Signature 



LOW FLOW WELL SAMPLE

Page 8 of 10
Date 9/6/12
Sample Time 10:35

12649760f

Depth of Well 13.64 Reference Used TOR
 Depth to Water 10.64 PID/FID Reading nm
 Height of Column 3.0 Interface Yes (No) If yes, Depth _____ Lighter / Heavier _____
 Well Casing Diameter 15 Material PVC General Condition OK _____ Bad _____
 Protector Road Box / Stickup Casing Secure X
 Ground to Reference _____ Collar Intact X
 Comments _____ Cover Locked X

[illegible]

Sample Field Treatment *If any ambiguity could exist, be sure to indicate the field treatment applied to each sample aliquot with the appropriate suffix in the sample ID on both the sample bottle label and on the Chain of Custody!*

Additional Comments Unable to take depth to water measurements
well casing too small

S Rooney

Signature



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FIELD SAMPLING RECORD
LOW FLOW WELL SAMPLE

LEA Comm. No. 88UT230.001 Page 9 of 10
Project UTC P&WEH 2012 Willow Brook GWM Date 9/6/12
Location P&W East Hartford, East Hartford, CT Sample Time 15:16
Client Pratt & Whitney East Hartford-LL

Monitoring Well Number WT-MW-191 Sample Number(s) 1264981 1264981UP

Initial Field Data and Measurements

Depth of Well 25.24 Reference Used TOR
Depth to Water 11.33 PID/FID Reading NM
Height of Column 13.91 Interface Yes (No) If yes, Depth N/A Lighter / Heavier
Well Casing Diameter 0.5 Material PVC General Condition OK Bad
Protector Road Box / Stickup Casing Secure X
Ground to Reference NM Collar Intact X
Comments 0.5" well initial water level taken Cover Locked N/A
Other (describe) N/A

Development Information

Parameter	Depth to Water	Pump Setting	Purge Rate (mL/min)	Cum. Liters Purged (L)	Temp (C)	Spec. Cond. (uS/cm)	pH (SU)	ORP (Eh)	DO (mg/L)	Turbidity (NTU)	Comment
Time											
14:30	Begin Purging			0.1	15.0	3549	7.11	-109.2	1.05	10.6	N/A
14:40	NM	350	150	1.5	19.02	3549	7.11	-109.2	1.05	10.6	
14:50	NM	350	150	3.0	18.48	3604	7.12	-115.1	0.92	2.87	
15:00	NM	350	150	4.5	18.30	3622	7.11	-101.7	0.88	2.14	
15:05	NM	350	150	5.25	18.41	3635	7.09	-93.1	0.87	1.83	
15:10	NM	350	150	6.0	18.47	3639	7.09	-91.4	0.87	1.73	
15:15	NM	350	150	6.75	18.37	3637	7.09	-90.6	0.83	1.59	
15:16	well is stable collect sample										

Development Method Peristaltic Pump / Bailer / Inertial Pump / Other

Sample Field Treatment If any ambiguity could exist, be sure to indicate the field treatment applied to each sample aliquot with the appropriate suffix in the sample ID on both the sample bottle label and on the Chain of Custody!

Field Decontamination? Yes / No If Yes, with what? DI/Liquinox/wipe

Waste Container ID 826091

Additional Comments Sampled for VOCs, CT EPAH, PCBs, RCRA metals, Ni, Zn

Field Personnel Jeremy Marcantonio

Sam Rooney

Jeremy Marcantonio

Signature

[Signature]

FIELD SAMPLING RECORD LOW FLOW WELL SAMPLE

LEA Comm. No. **88UT230.001** Page 10 of 10
 Project **UTC P&WEH 2012 Willow Brook GWM** Date 7/6/12
 Location **P&W East Hartford, East Hartford, CT** Sample Time 13:36
 Client **Pratt & Whitney East Hartford-LL**

Monitoring Well Number WT-MW-58 Sample Number(s) 1264980 1264980 UF

Initial Field Data and Measurements

Depth of Well 17.60 Reference Used TOR
 Depth to Water 12.46 PID/FID Reading NM
 Height of Column 5.14 Interface Yes ☒ No ☐ If yes, Depth N/A Lighter / Heavier
 Well Casing Diameter 1.5 Material PVC General Condition OK ☐ Bad ☐
 Protector Road Box / Stickup Casing Secure ☒
 Ground to Reference NM Collar Intact ☒
 Comments N/A Cover Locked ☒
 Other (describe) N/A

Development Information

Parameter	Depth to Water	Pump Setting	Purge Rate (mL/min)	Cum. Liters Purged (L)	Temp (C)	Spec. Cond. (uS/cm)	pH (SU)	ORP (Eh)	DO (mg/L)	Turbidity (NTU)	Comment
Time											
12:30	<u>Began Purging</u>			<u>0.1</u>	<u>100 mL/min</u>						<u>N/A</u>
12:40	<u>12.49</u>	<u>350</u>	<u>100</u>	<u>1.0</u>	<u>23.06</u>	<u>2420</u>	<u>6.84</u>	<u>-25.9</u>	<u>0.81</u>	<u>43.6</u>	
12:50	<u>12.49</u>	<u>350</u>	<u>100</u>	<u>2.0</u>	<u>24.21</u>	<u>2426</u>	<u>6.82</u>	<u>-29.8</u>	<u>0.82</u>	<u>21.6</u>	
12:55	<u>12.49</u>	<u>350</u>	<u>100</u>	<u>2.5</u>	<u>24.52</u>	<u>2432</u>	<u>6.79</u>	<u>-29.1</u>	<u>1.04</u>	<u>15.1</u>	
13:00	<u>12.49</u>	<u>350</u>	<u>100</u>	<u>3.0</u>	<u>24.63</u>	<u>2446</u>	<u>6.79</u>	<u>-30.2</u>	<u>0.96</u>	<u>13.4</u>	
13:05	<u>12.49</u>	<u>350</u>	<u>100</u>	<u>3.5</u>	<u>24.56</u>	<u>2396</u>	<u>6.71</u>	<u>-36.1</u>	<u>0.87</u>	<u>9.87</u>	
13:10	<u>12.49</u>	<u>350</u>	<u>100</u>	<u>4.0</u>	<u>24.63</u>	<u>2390</u>	<u>6.71</u>	<u>-34.5</u>	<u>1.01</u>	<u>9.32</u>	
13:15	<u>12.49</u>	<u>350</u>	<u>100</u>	<u>4.5</u>	<u>24.54</u>	<u>2401</u>	<u>6.71</u>	<u>-33.7</u>	<u>0.97</u>	<u>9.71</u>	
13:20	<u>12.49</u>	<u>350</u>	<u>100</u>	<u>5.0</u>	<u>24.43</u>	<u>2360</u>	<u>6.71</u>	<u>-38.1</u>	<u>0.98</u>	<u>9.01</u>	
13:25	<u>12.49</u>	<u>350</u>	<u>100</u>	<u>5.5</u>	<u>24.39</u>	<u>2369</u>	<u>6.71</u>	<u>-38.3</u>	<u>0.97</u>	<u>9.27</u>	
13:30	<u>12.49</u>	<u>350</u>	<u>100</u>	<u>6.0</u>	<u>24.41</u>	<u>2322</u>	<u>6.71</u>	<u>-38.1</u>	<u>0.97</u>	<u>9.08</u>	
13:35	<u>12.49</u>	<u>350</u>	<u>100</u>	<u>6.5</u>	<u>24.37</u>	<u>2364</u>	<u>6.71</u>	<u>-37.4</u>	<u>0.93</u>	<u>9.01</u>	
13:36	<u>well is stable</u>				<u>collect sample</u>						

Development Method Peristaltic Pump Bailer / Inertial Pump / Other

Sample Field Treatment *If any ambiguity could exist, be sure to indicate the field treatment applied to each sample aliquot with the appropriate suffix in the sample ID on both the sample bottle label and on the Chain of Custody!*

Field Decontamination? Yes No ☐ If Yes, with what? DI / Lignisox / Methanol
 Waste Container ID 826091

Additional Comments Sampled For: VOCs CTETAH, PCBs, RCRA metals Cd, Ni, Zn and Hex chrome

Field Personnel Jeremy Marcantonio J. Marcantonio Signature [Signature]
Sam Rooney N/A

Client / Reporting Information						Project Information								Requested Analysis (see TEST CODE sheet)										Matrix Codes																													
Company Name Loureiro Engineering Assoc						Project Name Willow Brook Gwm																																															
Street Address 100 Northwest Dr.						Street:																																															
City State Zip Plainville CT						Billing Information (If different from Report to)																																															
Project Contact Robin McKinney						Company Name																																															
Phone # Fax # 860-747-3000						Street Address																																															
Sampler(s) Name(s) J Corcoran Sam Rooney						City State Zip Same																																															
Project Manager						Attention: PO#																																															
Collection						Number of preserved Bottles																																															
Date Time Sampled by Matrix # of bottles HCl NaOH HNO3 H2SO4 H2O2 DI Water MEOH ENCORE Baseline																																																					
Field ID / Point of Collection						MECH/DI Vial #																																															
1264979						7/6/12 10:46 JC GW 7 2																																															
1264979 UF						10:45 JC 1																																															
1264991						10:46 JC 7 2																																															
1264991 UF						10:46 JC 1																																															
1264990						10:51 JC 1 1																																															
1264980						13:36 JC 7 2																																															
1264980 UF						13:36 JC 1																																															
1264889						15:30 JC 7 2																																															
1264889 UF						15:30 JC 1																																															
1264977						12:35 SR 7 2																																															
1264977 UF						12:35 SR 1																																															
1264981						15:16 JC 7 2																																															
Data Deliverable Information						Comments / Special Instructions																																															
Turnaround Time (Business days) <input checked="" type="checkbox"/> Std. 10 Business Days <input type="checkbox"/> Std. 5 Business Days (By Contract only) <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY						Approved By (Accutest PM): / Date: _____ _____								Commercial "A" (Level 1) Commercial "B" (Level 2) FULLT1 (Level 3+4) <input checked="" type="checkbox"/> CT RCP <input type="checkbox"/> MA MCP Commercial "A" = Results Only Commercial "B" = Results + QC Summary								NYASP Category A NYASP Category B State Forms EDD Format Other _____								Please Provide CT RCP Report for vials and PCBs and CT RCP Analytic lists																							
Emergency & Rush T/A data available VIA Lablink																																																					
Sample Custody must be documented below each time samples change possession, including courier delivery.																																																					
Relinquished by Sampler: 1 [Signature]						Date Time: 7/6/12 1620								Received By: 1 [Signature]								Relinquished By: 2								Date Time: Received By: 2																							
Relinquished by Sampler: 3						Date Time:								Received By: 3								Relinquished By: 4								Date Time: Received By: 4																							
Relinquished by: 5						Date Time:								Received By: 5								Custody Seal # <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact								Preserved where applicable <input type="checkbox"/>								On Ice <input type="checkbox"/>								Cooler Temp. 							

[illegible]

LEA Comm. No. **88UT230.001** Page **1** of **9**
 Project **UTC P&WEH 2012 Willow Brook GWM** Date **9/7/12**
 Location **P&W East Hartford, East Hartford, CT**
 Client **Pratt & Whitney East Hartford-LL**

Arrived at Site **8:35** Departed from Site **13:45** Vehicle **ST-18 / ST-14**
 Site Activities Odometer (Start) **60 mi. Round**

Site Activities
☒ Soil Sampling
☒ Groundwater Sampling
☐ Surface Water Sampling
☐ Vapor/Air Sampling
☐ Concrete Sampling
☐ Other Sampling
☐ Other Sampling
☐ Well Development
☐ Geoprobe Work
☐ Concrete Coring
☐ Construction
☐ Waste Management
☐ Inspection
☐ Site Walk Over
☐ Surveying
☐ Other (Describe)
Current Project Information
 Last Sample Number Used **N/A**
 Last Location ID Used **N/A**
 Current Location (if not complete) **see chain**
 Sampling for **Acctest**
 Laboratories used **Office**
 Paperwork & Equipment left at/in **Paul I.**
 Site Contact **N/A**
 Contractors on Site **N/A**

Non-productive Time
☒ None
☐ Equipment Breakdown
☐ Late
☐ Weather
☐ Missing Equipment
☐ Other (Describe)
 Time and place to meet contractors

Quality Assurance Checks
 Yes N/A No
☒ Sample labels complete
☒ Sample/cooler seals OK
☒ All samples obtained
☒ Chains of custody
☒ All forms/logs complete
☒ Site condition OK
☒ Site H&S Plan on site
☒ Instruments calibrated
Residuals Disposition

Item	Approx. Amount	Container ID
Soil/Solid	N	A
Groundwater	10 Gal	826091
Decon Fluid	N	A
PPE	N	A
Other		

Weather Conditions
 Temperature **83** Precipitation **0** Wind **0-5**
 Comments **83-87°F Sunny Humid**
 Checked By

Expendable Items Used			Equipment Used		
Qty	Item	LEA Number	Qty	Item	LEA Number
	Bailer, Disposable (specify size)	090		Generator 3500 Watt	153
1	Decontamination Supplies	081		Meter, Conductivity	022
	Drum, Closed Top 55 Gallon	086		Meter, pH/Temp	021
	Filter, In Line	024	2	Miscellaneous Small Tools & Equipment	152
2	Miscellaneous Health & Safety Items	060		Pump, Grundfos	073
	Tubing, 1/2", NOS	007	2	Pump, Peristaltic (spec. Master or Isco)	040
	Tubing, 3/8", NOS	008		Pump, Submersible	201
1	Water, Distilled	025		Pump, Watera	038
				Thermo-Anemometer	248
			2	Turbidimeter	023
				VOC Analyzer, Photovac 2020 (PID)	012
			2	Water Level Indicator	028
			2	Water Quality Meter w/Flow Cell	070

Field Personnel **Jeremy Marcantonio** **SR** **AC** Signature **[Signature]**

LEA Comm. No. 88UT230.001
 Project UTC P&WEH 2012 Willow Brook GWM
 Location P&W East Hartford, East Hartford, CT
 Client Pratt & Whitney East Hartford-LL

Page 2 of 9
 Date 9/17/12

Description of Site Activities

8:35 Jeremy Corcoran and Alex Clarke Onsite. Alex helping because Sam is leaving early. Sam already onsite and sampled a well. Cal Equipment Sam was onsite at 6 AM
 8:55 Begin Low Flow Sam Dumping waste
 9:50 Alex Clarke unable to sample WT-mw-42 well obstructed. Joe Trzeski Notified. Alex is going to help with hex chrome wells.
 10:00 Sam offsite
 13:47 Low Flow complete walk around and DO Willow Brook and Willow Pond cap inspection.
 15:10 Inspection complete. Inspection showed that in upper and lower Willow Brook pond had some growth that exceeded 0.5". Some of the growth was over 1" in diameter. Also along the brook west of WT-mw-40 there has been some washout on the bank. Finally as mentioned before WT-mw-42 is obstructed.
 15:11 Dump waste
 15:45 offsite Luke C. waiting for Benny

Field Personnel

Jeremy Marcantonio
 SR

AC

Signature

[Signature]



Engineering • Construction • EH&S • Energy • Waste

FIELD SAMPLING RECORD
MISCELLANEOUS SAMPLES

LEA Comm. No. **88UT230.001**
Project **UTC P&WEH 2012 Willow Brook GWM**
Location **P&W East Hartford, East Hartford, CT**
Client **Pratt & Whitney East Hartford-LL**

Page **3** of **9**
Date **9/7/12**

Sample ID	Location ID	Time	Sample Type	Depth (ft)	PID/FID Reading	Comments	Waste Cont. ID
1264988	Trip Blank	9:00	Bkr	N/A			826091

Field Personnel **Jeremy Marcantonio**
SR

SC
AC

Signature



Engineering • Construction • EH&S • Energy • Waste

DAILY FIELD REPORT CALIBRATION RECORD

LEA Comm. No. **88UT230.001**
Project **UTC P&WEH 2012 Willow Brook GWM**
Location **P&W East Hartford, East Hartford, CT**
Client **Pratt & Whitney East Hartford-LL**

Page **4** of **9**
Date **9/7/12**

pH Meter/Serial

	Time	pH 4.01	pH 7.00	pH 10.01	Spec. Cond.	ORP	DO
Initial Calibration	10D101538:35	4.00	7.00	10.00	1000	200	100%
Calibration Check	10E510548:55	4.00	7.00	10.00	1000	200	100%
Calibration Check							

Turbidity Meter/Serial

	Time	0 NTU	20 NTU	100 NTU	800 NTU
Initial Calibration	3520 8:40	0.22	21.2	105	798
Calibration Check	3519 8:40	0.28	20.7	101	802
Calibration Check					

PID Meter/Serial

	Time	Standard	Meter Reading	Zero with
Initial Calibration				
Calibration Check				
Calibration Check				

Balance/Serial

	Time	Standard	Balance
Initial Calibration			
Calibration Check			
Calibration Check			

Comments

Field Personnel Jeremy Marcantonio
SR

AC

Signature



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FIELD SAMPLING RECORD
LOW FLOW WELL SAMPLE

LEA Comm. No. 88UT230.001

Page 5 of 9

Project UTC P&WEH 2012 Willow Brook GWM

Date 9/7/12

Location P&W East Hartford, East Hartford, CT

Sample Time 9:51

Client Pratt & Whitney East Hartford-LL

Monitoring Well Number WT-MW-48

Sample Number(s) 1264984

1264984UF

Initial Field Data and Measurements

Depth of Well 7.58

Reference Used TGR

Depth to Water 4.87

PID/FID Reading NM

Height of Column 2.71

Interface

Yes (No)

If yes, Depth N/A

Lighter / Heavier

Well Casing Diameter 21"

Material PVC

General Condition

OK

Bad

Protector Road Box / Stickup

Casing Secure

X

Ground to Reference NM

Collar Intact

X

Comments

Cover Locked

N/A

Other (describe)

N/A

Development Information

Parameter	Depth to Water	Pump Setting	Purge Rate (mL/min)	Cum. Liters Purged (L)	Temp (C)	Spec. Cond. (uS/cm)	pH (SU)	ORP (Eh)	DO (mg/L)	Turbidity (NTU)	Comment
Time											
8:55	Began Purging at 150 mL/min										N/A
9:05	4.92	350	150	1.5	21.4	649	6.67	-118.7	0.01	8.92	
9:15	4.92	350	150	3.0	21.8	655	6.67	-120.3	0.02	4.09	
9:25	4.92	350	150	4.5	22.7	652	6.67	-125.4	0.09	3.95	
9:35	4.92	350	150	6.0	22.8	652	6.71	-122.8	0.12	3.72	
9:40	4.92	350	150	6.75	22.8	654	6.70	-122.4	0.13	3.47	
9:45	4.92	350	150	7.50	22.8	653	6.70	-122.7	0.13	3.21	
9:50	4.92	350	150	8.25	22.7	653	6.70	-122.9	0.15	3.04	
9:51	Well stable collect sample										

Development Method Peristaltic Pump / Bailer / Inertial Pump / Other

Sample Field Treatment If any ambiguity could exist, be sure to indicate the field treatment applied to each sample aliquot with the appropriate suffix in the sample ID on both the sample bottle label and on the Chain of Custody!

Field Decontamination? Yes (No)

If Yes, with what?

DI / Liganox / Methanol

Waste Container ID 826091

Additional Comments Sampled for VOCs, CTETPH, PCBs, RCRA8 metal + Cu, Ni, Zn

Field Personnel

Jeremy Marcantonio

SR

AC
JC

Signature



Engineering • Construction • EH&S • Energy • Waste

FIELD SAMPLING RECORD
LOW FLOW WELL SAMPLE

LEA Comm. No. 88UT230.001 Page 6 of 9
Project UTC P&WEH 2012 Willow Brook GWM Date 9/7/12
Location P&W East Hartford, East Hartford, CT Sample Time 11:41
Client Pratt & Whitney East Hartford-LL

Monitoring Well Number WT-MW-47 Sample Number(s) 1264985 1264985 UF

Initial Field Data and Measurements

Depth of Well 14.36 Reference Used TOR
Depth to Water 9.52 PID/FID Reading NM
Height of Column 4.84 Interface Yes (No) If yes, Depth N/A Lighter / Heavier
Well Casing Diameter 9.5" Material PVC General Condition OK Bad
Protector Road Box / Stickup Casing Secure X
Ground to Reference NM Collar Intact X
Comments Cover Locked N/A
Other (describe) N/A

Development Information

Time	Parameter	Depth to Water	Pump Setting	Purge Rate (mL/min)	Cum. Liters Purged (L)	Temp (C)	Spec. Cond. (uS/cm)	pH (SU)	ORP (Eh)	DO (mg/L)	Turbidity (NTU)	Comment
10:58	Begin Purging at 150 mL/min											N/A
11:05	NM	350	150	1.5	21.9	289.3	5.81	134.9	1.86	11.7		
11:15	NM	350	150	3.0	21.3	287.4	5.78	132.1	1.84	8.32		
11:25	NM	350	150	4.5	21.4	288.6	5.75	130.8	1.82	5.04		
11:30	NM	350	150	5.25	21.7	289.3	5.75	129.6	1.80	4.77		
11:35	NM	350	150	6.00	21.6	289.3	5.75	129.1	1.79	4.43		
11:40	NM	350	150	6.75	21.7	289.6	5.75	130.4	1.77	3.87		
11:41	We'll collect sample											

Development Method Peristaltic Pump Bailer / Inertial Pump / Other

Sample Field Treatment If any ambiguity could exist, be sure to indicate the field treatment applied to each sample aliquot with the appropriate suffix in the sample ID on both the sample bottle label and on the Chain of Custody!

Field Decontamination? Yes/No If Yes, with what? DI/methanol / Lignox

Waste Container ID 826091

Additional Comments 1/2 inch well initial water level taken.
Sampled For: VOCs, CTE TPH, PCBs, RCRA 8 metals Cu, Ni, Zn

Field Personnel Jeremy Marcantonio

SR

AC

Signature



LOW FLOW WELL SAMPLE

Page 7 of 9
Date 9/7/12
Sample Time 13:16

Monitoring Well Number WT-MW-46 Sample Number(s) 1264986 1264986 U5

Initial Field Data and Measurements

Depth of Well	12.64	Reference Used	TOR	
Depth to Water	7.36	PID/FID Reading	NM	
Height of Column	5.28	Interface	Yes	No <input checked="" type="radio"/>
			If yes, Depth	N/A
				Lighter / Heavier
Well Casing Diameter	0.5	Material	PVC	General Condition
Protector	Road Box / Stickup			OK
Ground to Reference	NM			Bad
Comments				

Development Information

[illegible]

Development Method (Peristaltic Pump / Bailer / Inertial Pump / Other)

Sample Field Treatment *If any ambiguity could exist, be sure to indicate the field treatment applied to each sample aliquot with the appropriate suffix in the sample ID on both the sample bottle label and on the Chain of Custody!*

Field Decontamination? Yes / No If Yes, with what? DI / Liguinox / methanol
Waste Container ID 826091

Additional Comments 0.5' well initial water level taken
Sampled for: VOCs, CTETPH, PCBs and RCRA 8 metals +
Cu, Ni, Zn

Field Personnel	Jeremy Marcantonio AC
-----------------	-------------------------------------

Signature _____



LOW FLOW WELL SAMPLE

Page 8 of 9
Date 9/7/12
Sample Time 7:20

1264982.5

Depth of Well 18.19 Reference Used 10K
 Depth to Water 16.57 PID/FID Reading any
 Height of Column 5.62 Interface Yes / No (X) No If yes, Depth _____ Lighter / Heavier _____
 Well Casing Diameter 1.5 Material PVC General Condition OK _____ Bad _____
 Protector Road Box / Stickup Casing Secure ☒ _____
 Ground to Reference _____ Collar Intact ☒ _____
 Comments _____ Cover Locked ☒ _____

Equipment Information											
Parameter	Depth to Water	Pump Setting	Purge Rate (mL/min)	Cum. Liters Purged (L)	Temp (C)	Spec. Cond. (uS/cm)	pH (SU)	ORP (Eh)	DO (mg/L)	Turbidity (NTU)	Comment
Time											
6:25	18.57	350	100	0	—	Start Purging					
6:35	12.72	350	100	1.0	19.2	1425	6.41	261.2	0.83	91.0	
6:45	12.75	350	100	2.0	19.5	1469	6.11	253.6	0.22	46.8	
6:55	12.76	350	100	3.0	19.6	1539	6.00	242.0	0.27	29.3	
7:05	12.79	350	100	4.0	19.5	1549	5.99	235.2	0.80	11.7	
7:10	12.80	350	100	4.5	19.5	1562	5.97	226.7	0.26	8.4	
7:15	12.82	350	100	5.0	19.6	1566	5.97	222.4	0.28	6.6	
7:20	12.83	350	100	5.5	19.5	1569	5.96	219.3	0.26	5.8	Sampling

Sample Field Treatment *If any ambiguity could exist, be sure to indicate the field treatment applied to each sample aliquot with the appropriate suffix in the sample ID on both the sample bottle label and on the Chain of Custody!*

Additional Comments

SKooney

Signature _____

Signature _____

**United Technologies/Pratt & Whitney
Post Remediation Maintenance and Monitoring Program
Willow Brook and Willow Brook Pond**

Weather Conditions: 80's Humid
Inspection Date: 9/2/12
Inspection Time: 13:47

Inspector: Jeremy Corcoran
Reviewed By: John McKinney

INSPECTION POINT	DESCRIPTION	GOOD	FAIR	POOR
1) Signs of erosion	Check for gullies of more than 2 inches in depth.		X	
2) Signs of settling	Look for ponding and for settling of soil of more than 3 inches over a 5 sq. foot area.	X		
3) Loss of vegetative cover	Check for loss of vegetation cover in any area greater than 5 square feet.	X		
4) Undesirable growth	Check for growth that is in excess of 1/2 inch in diameter (woody vegetation) and taller than 2 feet.		X	
5) Signs of ponding and run on	Look for areas of more than 5 square feet of standing water or areas where surface water is running onto cap.	X		
6) Condition of fencing and gates	Check perimeter fence to make sure it is not damaged (no holes greater than 4-inches in diameter), gates are operable, and locks are in place.	X		
7) Condition of rip-rap in Willow Brook stream channel	Observe entire length of stream channel. Verify that rip-rap has not been displaced.	X		
8) Condition of stone layer in Willow Brook	Perform probing of bottom of Willow Brook Ponds at 5 locations in upper pond and 15 locations within lower pond. Verify refusal on stone layer at all locations.	X		
9) Burrowing animals	Verify no holes larger than 2 inches in diameter in cap.	X		
10) Monitoring well network	Check concrete collar protective casing, locks, legible well identification.	X		
	1. Condition of lock	X		
	2. Visible ID of wells	X		
	3. Ponding or infiltration of surface water	X		
	4. Condition of concrete collar	X		
	5. Condition of steel casing	X		

Report all deficiencies to the designated representative of Pratt & Whitney

List all deficiencies, the corrective measures taken, and the date corrective measures were completed:

1) Maintenance issues identified during the April 2012 inspection (erosion channel

Corrective Action: at west end of Willow Street parking lot and woody vegetation

2) growing through the cap), were addressed by LEA/LCI during
Corrective Action: the week of October 15th, 2012.

3) _____

Corrective Action: _____

4) _____

Corrective Action: _____

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL: 508-481-6200 FAX: 508-481-7753
www.accutest.com

[illegible]

LEA Comm. No. **88UT230.001** Page 1 of 4
 Project **UTC P&WEH 2012 Willow Brook GWM** Date 9/27/12
 Location **P&W East Hartford, East Hartford, CT**
 Client **Pratt & Whitney East Hartford-LL**

Arrived at Site 8:45 Departed from Site 11:30 Vehicle ST-14
 Site Activities Odometer (Start) _____ Return P&W EH

☒ Soil Sampling ☐ Geoprobe Work **Current Project Information**
☒ Groundwater Sampling ☐ Concrete Coring Last Sample Number Used _____
☐ Surface Water Sampling ☐ Construction Last Location ID Used _____
☐ Vapor/Air Sampling ☐ Waste Management Current Location (if not complete) _____
☐ Concrete Sampling Sampling for _____
☐ Other Sampling Laboratories used Acctest
☐ Other Sampling Paperwork & Equipment left at/in C. Venable
☐ Well Development Site Contact _____
☐ Inspection Contractors on Site _____
☐ Site Walk Over _____
☐ Surveying _____
☐ Other (Describe) _____

Non-productive Time
☐ None
☐ Equipment Breakdown
☐ Late
☐ Weather
☐ Missing Equipment
☐ Other (Describe) _____
 Time and place to meet contractors _____

Quality Assurance Checks
 Yes N/A No
☒ Sample labels complete
☒ Sample/cooler seals OK
☒ All samples obtained
☒ Chains of custody
☒ All forms/logs complete
☒ Site condition OK
☒ Site H&S Plan on site
☒ Instruments calibrated
Residuals Disposition
 Item Approx. Amount Container ID
 Soil/Solid _____
 Groundwater 829607
 Decon Fluid _____
 PPE Gloves
 Other _____

Weather Conditions
 Temperature _____ Precipitation _____ Wind _____
 Comments _____
 Checked By R McKinney

Expendable Items Used			Equipment Used		
Qty	Item	LEA Number	Qty	Item	LEA Number
	Bailer, Disposable (specify size)	090		Generator 3500 Watt	153
	Drum, Closed Top 55 Gallon	086		Meter, Conductivity <u>(C)</u>	022
	Filter, In Line	024		Meter, pH/Temp	021
	Miscellaneous Health & Safety Items <u>(C)</u>	060		Miscellaneous Small Tools & Equipment	152
	Tubing, 1/2" NOS <u>1/2"</u>	007		Pump, Grundfos	073
	Tubing, 3/8" NOS <u>Teflon/Flex tubing</u>	008		Pump, Peristaltic (spec. Master or Isco)	040
	Water, Distilled	025		Pump, Submersible	201
				Pump, Watera	038
				Turbidimeter	023
				VOC Analyzer, Photovac 2020 (PID)	012
				Water Level Indicator	028
				Water Quality Meter w/Flow Cell	070

Field Personnel Christina Venable Ryan Hudock Signature [Signature]



Engineering • Construction • EH&S • Energy • Waste

DAILY FIELD REPORT

Supplemental Sheet

LEA Comm. No. 88UT230.001
Project UTC P&WEH 2012 Willow Brook GWM
Location P&W East Hartford, East Hartford, CT
Client Pratt & Whitney East Hartford-LL

Page 2 of 4
Date 9/27/12

Description of Site Activities

- Left yard around 7:30
- Arrived at ~~W&H~~ ^{PLW} around 8:45
- Got to well around 9:20
- Began low flow sampling
- Departed well around 11:30
- Arrived at Waste Drum storage area
- Sampled waste ~~drum~~ drums
- Departed ~~site~~ East Hartford around 1:30
- Drum 826094 was Empty

P:

Field Personnel

Christina Venable

Ryan Hudock

Signature



Engineering • Construction • EH&S • Energy • Waste

FIELD SAMPLING RECORD
PERFORMANCE SAMPLE

LEA Comm. No. 88UT230.001
Project UTC P&WEH 2012 Willow Brook GWM
Location P&W East Hartford, East Hartford, CT
Client Pratt & Whitney East Hartford-LL

Page 1 of 1
Date 9/27/12

LEA Sample ID 1266371 VOCs
8:57

Loureiro Engineering
VOCs
Preservative: HCl
Sample ID # 0919-12-01.1

LEA Sample ID 1266372 Metals
9:00

Loureiro Engineering
Metals
Preservative: HNO3
Sample ID # 0919-12-01.3

LEA Sample ID 1266373 PCBs
9:45

PCBs
Preservative: None
Sample ID # 0919-12-01.2

LEA Sample ID 1266374 ETPH
10:30

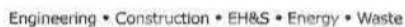
Loureiro Engineering
DRO
Preservative: None
Sample ID # 0919-12-01.4

LEA Sample ID

LEA Sample ID

Field Personnel Christina Venable

Signature



LEA Comm. No. 88UT230.001

Page 41 of 41

Date 9/27/12

Sample Time 10 : 10

Monitoring Well Number WT-MW-42 Sample Number(s) ~~1266371~~ 1250517

Depth of Well

Depth to Water 3.75

Height of Column —

Well Casing Diameter 14"

Well Casing Diameter

Protector Road Box / Stickup
Ground to Reference

Ground to Reference	Comments
---------------------	----------

Reference Used

PID/FID Reading

Interface

Yes / No

If yes, Depth

NA

Lighter / Heavier

Material

PVC

General Condition

OK

Bad

Casing Secure

Collar Intact

Cover Locked

Other (describe)

[illegible]Development Method Peristaltic Pump / Bailer / Inertial Pump / Other

Sample Field Treatment *If any ambiguity could exist, be sure to indicate the field treatment applied to each sample aliquot with the appropriate suffix in the sample ID on both the sample bottle label and on the Chain of Custody!*

Field Decontamination? Yes/No

If Yes, with what?

McThorn) Wise

Waste Container ID

Additional Comments

Field Personnel Christina Venable

Ryan Hudock

Signature

Boh

[illegible]

Appendix B

Copies of Laboratory Reports (provided on CD-ROM)



04/05/12

Technical Report for

Loureiro Eng. Associates

UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

88UT230

Accutest Job Number: MC9052

Sampling Date: 03/26/12

Report to:

**Loureiro Engineering Associates
100 Northwest Drive
Plainville, CT 06062
rlmckinney@loureiro.com**

ATTN: Robin McKinney

Total number of pages in report: 83



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Pand
**Reza Pand
Lab Director**

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) ISO 17025:2005 (L2235)
This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.

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Sample Summary

Loureiro Eng. Associates

Job No: MC9052

UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Project No: 88UT230

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC9052-1	03/26/12	11:45	ACNE 03/26/12	AQ	Ground Water	1255889
MC9052-2	03/26/12	11:45	ACNE 03/26/12	AQ	Ground Water	1255889UF
MC9052-3	03/26/12	13:25	ACNE 03/26/12	AQ	Ground Water	1255890
MC9052-4	03/26/12	13:25	ACNE 03/26/12	AQ	Ground Water	1255890UF
MC9052-5	03/26/12	15:20	ACNE 03/26/12	AQ	Ground Water	1255892
MC9052-6	03/26/12	13:10	ACNE 03/26/12	AQ	Ground Water	1255893
MC9052-7	03/26/12	13:10	ACNE 03/26/12	AQ	Ground Water	1255893UF
MC9052-8	03/26/12	11:50	ACNE 03/26/12	AQ	Ground Water	1255894
MC9052-9	03/26/12	11:50	ACNE 03/26/12	AQ	Ground Water	1255894UF
MC9052-10	03/26/12	15:30	ACNE 03/26/12	AQ	Ground Water	1255903
MC9052-11	03/26/12	15:30	ACNE 03/26/12	AQ	Ground Water	1255903UF
MC9052-12	03/26/12	11:00	ACNE 03/26/12	AQ	Trip Blank Water	1255904

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Loureiro Eng. Associates

Job No MC9052

Site: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford,

Report Date 4/5/2012 11:01:27 AM

11 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 03/26/2012 and were received at Accutest on 03/26/2012 properly preserved, at 1.3 Deg. C and intact. These Samples received an Accutest job number of MC9052. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ

Batch ID: MSN2310

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- MSN2310-BS for 2,2-Dichloropropane, 2-Hexanone, Methyl Tert Butyl Ether are outside control limits. Blank Spike meets program technical requirements.
- MSN2310-BS for 2-Butanone (MEK), Acetone, Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- Continuing calibration check standard MSN2310-CC2292 for methyl tert butyl ether, 2,2-dichloropropane exceed 30% Difference. This check standard met RCP criteria.
- Quadratic regression is employed for initial calibration standard MSN2292-ICC2292 for carbon tetrachloride.

Matrix: AQ

Batch ID: MSN2314

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- MSN2314-BS for 2-Butanone (MEK), 2-Hexanone, Acetone, Methyl Tert Butyl Ether are outside control limits. Blank Spike meets program technical requirements.
- MSN2314-BS for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- Initial calibration verification MSN2292-ICV2292 for acetone, 2-butanone, 2-hexanone exceed 35% Difference.
- Continuing calibration check standard MSN2314-CC2292 for methyl tert butyl ether, 2,2-dichloropropane exceed 30% Difference. This check standard met RCP criteria.

Extractables by GC By Method CT-ETPH 7/06

Matrix: AQ

Batch ID: OP28371

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Extractables by GC By Method SW846 8082

Matrix: AQ

Batch ID: OP28373

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010C

Matrix: AQ**Batch ID:** MP18780

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC9076-1FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Cadmium, Copper, Nickel, Selenium are outside control limits for sample MP18780-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- Only selected metals requested.

Metals By Method SW846 7470A

Matrix: AQ**Batch ID:** MP18790

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC9052-2MS, MC9052-2MSD were used as the QC samples for metals.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report (MC9052).

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	1255889	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-1	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N61763.D	1	03/27/12	JP	n/a	n/a	MSN2310
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255889	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-1	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255889	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-1	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	84%		70-130%
460-00-4	4-Bromofluorobenzene	100%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255889	
Lab Sample ID:	MC9052-1	Date Sampled: 03/26/12
Matrix:	AQ - Ground Water	Date Received: 03/26/12
Method:	CT-ETPH 7/06 SW846 3510C	Percent Solids: n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BG34710.D	1	04/02/12	KN	03/28/12	OP28371	GBG1276
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.084	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	115%		50-149%	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255889	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-1	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE29994.D	1	03/30/12	AP	03/28/12	OP28373	GBE1671
Run #2							

	Initial Volume	Final Volume
Run #1	960 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.26	ug/l	
11104-28-2	Aroclor 1221	ND	0.26	ug/l	
11141-16-5	Aroclor 1232	ND	0.26	ug/l	
53469-21-9	Aroclor 1242	ND	0.26	ug/l	
12672-29-6	Aroclor 1248	ND	0.26	ug/l	
11097-69-1	Aroclor 1254	ND	0.26	ug/l	
11096-82-5	Aroclor 1260	ND	0.26	ug/l	
37324-23-5	Aroclor 1262	ND	0.26	ug/l	
11100-14-4	Aroclor 1268	ND	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	85%		30-150%
877-09-8	Tetrachloro-m-xylene	82%		30-150%
2051-24-3	Decachlorobiphenyl	77%		30-150%
2051-24-3	Decachlorobiphenyl	75%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1255889UF**Lab Sample ID:** MC9052-2**Matrix:** AQ - Ground Water**Date Sampled:** 03/26/12**Date Received:** 03/26/12**Percent Solids:** n/a**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT**Total Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Barium	< 50	50	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Copper	< 25	25	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	03/29/12	03/30/12 EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Zinc	< 20	20	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14117

(2) Instrument QC Batch: MA14120

(3) Prep QC Batch: MP18780

(4) Prep QC Batch: MP18790

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1255890	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-3	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N61764.D	1	03/27/12	JP	n/a	n/a	MSN2310
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255890	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-3	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	82%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255890	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-3	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	84%		70-130%
460-00-4	4-Bromofluorobenzene	97%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255890	
Lab Sample ID:	MC9052-3	Date Sampled: 03/26/12
Matrix:	AQ - Ground Water	Date Received: 03/26/12
Method:	CT-ETPH 7/06 SW846 3510C	Percent Solids: n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BG34708.D	1	04/02/12	KN	03/28/12	OP28371	GBG1276
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	0.241	0.084	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	107%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255890	
Lab Sample ID:	MC9052-3	Date Sampled: 03/26/12
Matrix:	AQ - Ground Water	Date Received: 03/26/12
Method:	SW846 8082 SW846 3510C	Percent Solids: n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE29995.D	1	03/30/12	AP	03/28/12	OP28373	GBE1671
Run #2							

	Initial Volume	Final Volume
Run #1	960 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.26	ug/l	
11104-28-2	Aroclor 1221	ND	0.26	ug/l	
11141-16-5	Aroclor 1232	ND	0.26	ug/l	
53469-21-9	Aroclor 1242	ND	0.26	ug/l	
12672-29-6	Aroclor 1248	ND	0.26	ug/l	
11097-69-1	Aroclor 1254	ND	0.26	ug/l	
11096-82-5	Aroclor 1260	ND	0.26	ug/l	
37324-23-5	Aroclor 1262	ND	0.26	ug/l	
11100-14-4	Aroclor 1268	ND	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	75%		30-150%
877-09-8	Tetrachloro-m-xylene	71%		30-150%
2051-24-3	Decachlorobiphenyl	42%		30-150%
2051-24-3	Decachlorobiphenyl	40%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255890UF	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-4	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Arsenic	5.3	4.0	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Barium	< 50	50	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Chromium	12.2	10	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Copper	< 25	25	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	03/29/12	03/30/12	EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Zinc	< 20	20	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14117

(2) Instrument QC Batch: MA14120

(3) Prep QC Batch: MP18780

(4) Prep QC Batch: MP18790

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1255892	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-5	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N61765.D	1	03/27/12	JP	n/a	n/a	MSN2310
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255892	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-5	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255892	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-5	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	84%		70-130%
460-00-4	4-Bromofluorobenzene	101%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255893	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-6	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N61766.D	1	03/27/12	JP	n/a	n/a	MSN2310
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255893	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-6	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	82%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255893	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-6	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	85%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255893	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-6	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	CT-ETPH 7/06 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BG34706.D	1	04/02/12	KN	03/28/12	OP28371	GBG1276
Run #2							

	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.085	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	113%		50-149%	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255893	
Lab Sample ID:	MC9052-6	Date Sampled: 03/26/12
Matrix:	AQ - Ground Water	Date Received: 03/26/12
Method:	SW846 8082 SW846 3510C	Percent Solids: n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE29996.D	1	03/30/12	AP	03/28/12	OP28373	GBE1671
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.26	ug/l	
11104-28-2	Aroclor 1221	ND	0.26	ug/l	
11141-16-5	Aroclor 1232	ND	0.26	ug/l	
53469-21-9	Aroclor 1242	ND	0.26	ug/l	
12672-29-6	Aroclor 1248	ND	0.26	ug/l	
11097-69-1	Aroclor 1254	ND	0.26	ug/l	
11096-82-5	Aroclor 1260	ND	0.26	ug/l	
37324-23-5	Aroclor 1262	ND	0.26	ug/l	
11100-14-4	Aroclor 1268	ND	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	81%		30-150%
877-09-8	Tetrachloro-m-xylene	75%		30-150%
2051-24-3	Decachlorobiphenyl	64%		30-150%
2051-24-3	Decachlorobiphenyl	61%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255893UF	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-7	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Barium	165	50	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Copper	< 25	25	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	03/29/12	03/30/12	EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Zinc	< 20	20	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14117

(2) Instrument QC Batch: MA14120

(3) Prep QC Batch: MP18780

(4) Prep QC Batch: MP18790

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1255894	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-8	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N61767.D	1	03/27/12	JP	n/a	n/a	MSN2310
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	1.9	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255894	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-8	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	2.4	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	6.7	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255894	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-8	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	84%		70-130%
460-00-4	4-Bromofluorobenzene	100%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255894	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-8	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	CT-ETPH 7/06 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BG34704.D	1	04/02/12	KN	03/28/12	OP28371	GBG1276
Run #2							

	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	0.118	0.087	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	108%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255894	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-8	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE29997.D	1	03/30/12	AP	03/28/12	OP28373	GBE1671
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.28	ug/l	
11104-28-2	Aroclor 1221	ND	0.28	ug/l	
11141-16-5	Aroclor 1232	ND	0.28	ug/l	
53469-21-9	Aroclor 1242	ND	0.28	ug/l	
12672-29-6	Aroclor 1248	ND	0.28	ug/l	
11097-69-1	Aroclor 1254	ND	0.28	ug/l	
11096-82-5	Aroclor 1260	ND	0.28	ug/l	
37324-23-5	Aroclor 1262	ND	0.28	ug/l	
11100-14-4	Aroclor 1268	ND	0.28	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	77%		30-150%
877-09-8	Tetrachloro-m-xylene	79%		30-150%
2051-24-3	Decachlorobiphenyl	57%		30-150%
2051-24-3	Decachlorobiphenyl	53%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255894UF	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-9	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Barium	236	50	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Copper	< 25	25	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	03/29/12	03/30/12	EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Zinc	< 20	20	ug/l	1	03/28/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14117

(2) Instrument QC Batch: MA14120

(3) Prep QC Batch: MP18780

(4) Prep QC Batch: MP18790

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1255903	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-10	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N61768.D	1	03/27/12	JP	n/a	n/a	MSN2310
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255903	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-10	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255903	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-10	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	85%		70-130%
460-00-4	4-Bromofluorobenzene	100%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

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3

Client Sample ID:	1255903	
Lab Sample ID:	MC9052-10	Date Sampled: 03/26/12
Matrix:	AQ - Ground Water	Date Received: 03/26/12
Method:	CT-ETPH 7/06 SW846 3510C	Percent Solids: n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BG34702.D	1	04/02/12	KN	03/28/12	OP28371	GBG1276
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.086	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	114%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255903	
Lab Sample ID:	MC9052-10	Date Sampled: 03/26/12
Matrix:	AQ - Ground Water	Date Received: 03/26/12
Method:	SW846 8082 SW846 3510C	Percent Solids: n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE29998.D	1	03/30/12	AP	03/28/12	OP28373	GBE1671
Run #2							

	Initial Volume	Final Volume
Run #1	880 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.28	ug/l	
11104-28-2	Aroclor 1221	ND	0.28	ug/l	
11141-16-5	Aroclor 1232	ND	0.28	ug/l	
53469-21-9	Aroclor 1242	ND	0.28	ug/l	
12672-29-6	Aroclor 1248	ND	0.28	ug/l	
11097-69-1	Aroclor 1254	ND	0.28	ug/l	
11096-82-5	Aroclor 1260	ND	0.28	ug/l	
37324-23-5	Aroclor 1262	ND	0.28	ug/l	
11100-14-4	Aroclor 1268	ND	0.28	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	148%		30-150%
877-09-8	Tetrachloro-m-xylene	146%		30-150%
2051-24-3	Decachlorobiphenyl	139%		30-150%
2051-24-3	Decachlorobiphenyl	144%		30-150%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255903UF	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-11	Date Received:	03/26/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Barium	< 50	50	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Copper	< 25	25	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	03/29/12	03/30/12 EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Zinc	< 20	20	ug/l	1	03/28/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14117

(2) Instrument QC Batch: MA14120

(3) Prep QC Batch: MP18780

(4) Prep QC Batch: MP18790

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1255904	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-12	Date Received:	03/26/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N61854.D	1	03/29/12	JP	n/a	n/a	MSN2314
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255904	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-12	Date Received:	03/26/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	80%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255904	Date Sampled:	03/26/12
Lab Sample ID:	MC9052-12	Date Received:	03/26/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	84%		70-130%
460-00-4	4-Bromofluorobenzene	91%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Certification Exceptions (CT)
- Chain of Custody
- RCP Form
- Sample Tracking Chronicle

Parameter Certification Exceptions

Job Number: MC9052
Account: LEA Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

The following parameters included in this report are exceptions to NELAC certification.
The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
Aroclor 1262	37324-23-5	SW846 8082	AQ	Certified by SOP MGC204/GC-ECD
Aroclor 1268	11100-14-4	SW846 8082	AQ	Certified by SOP MGC204/GC-ECD

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Client / Reporting Information Company Name: <u>LEA</u> Street Address: <u>100 Northwest Dr</u> City: <u>Plainville CT 06062</u> Project Contact: <u>Heather Grimm</u> Phone #: <u>(860) 747-6181</u> Sampler(s): <u>Nate / Alex</u>		Project Information Project Name: <u>UTC PtWET Willow Pond GW Sampling</u> Street: <u>East Hartford</u> Project#: <u>88UT 230</u> Client POC: <u>Robin McKinney</u> Project Manager: <u>Robin McKinney</u>		Requested Analysis (see TEST CODE sheet) <u>VOCs</u> <u>PCB₃</u> <u>CT ETPH</u> <u>Metals KRAS + Cu + Zn</u>		Matrix Codes DW - Drinking Water GW - Ground Water SW - Surface Water SS - Soil SL - Sludge SED - Sediment LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe EB - Equipment Blank RB - Rinse Blank TB - Trip Blank	
Field ID / Point of Collection MECH/DI Vial # Date Time Sampled by Matrix # of bottles ICI HNO ₃ H ₂ SO ₄ H ₂ O ₂ DO Water MECH ENCORE Baseline		Number of preserved bottles ICI HNO ₃ H ₂ SO ₄ H ₂ O ₂ DO Water MECH ENCORE Baseline		LAB USE ONLY			
-1 1255889		3/26/12 11:45 AC GW 6 2		X X X			
-2 1255889 UF		11:45 AC 1 1		X			
-3 1255890		13:25 AC 6 2		X X X			
-4 1255890 UF		13:25 AC 1 1		X			
-5 1255892		15:20 NE 2 2		X			
-6 1255893		13:10 NE 6 2		X X X			
-7 1255893 UF		13:10 NE 1 1		X			
-8 1255894		11:50 NE 6 2		X X X			
-9 1255894 UF		11:50 NE GW 1 1		X			
-10 1255903		15:30 AC EB 6 2		X X X			
-11 1255903 UF		15:30 AC EB 1 1		X			
-12 1255904		3/26/12 11:00 NE TB 1 1		X			
Data Deliverable Information Turnaround Time (Business days) <input checked="" type="checkbox"/> Std. 10 Business Days <input type="checkbox"/> Std. 5 Business Days (By Contract only) <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY Approved By (Accutest PM) / Date: _____ <input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> FULLT1 (Level 3+4) <input checked="" type="checkbox"/> CT RCP <input type="checkbox"/> MA MCP <input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format <input type="checkbox"/> Other _____ Commercial "A" = Results Only Commercial "B" = Results + QC Summary Comments / Special Instructions: <u>17A, 6D, 5H2</u>							
Emergency & Rush T/A data available via Lablink Sample Custody must be documented below each time samples change possession, including courier delivery.							
Relinquished By: <u>Nate / Alex</u> Date Time: <u>3-26-12</u> Relinquished By: <u>3</u> Date Time: <u>3</u> Relinquished By: <u>5</u> Date Time: <u>5</u>		Received By: <u>Bc</u> Date Time: <u>3-26-12</u> Received By: <u>4</u> Date Time: <u>4</u> Received By: <u>5</u> Date Time: <u>5</u>		Relinquished By: <u>182</u> Date Time: <u>3-26-12</u> Received By: <u>2</u> Date Time: <u>2</u> Received By: <u>4</u> Date Time: <u>4</u>			
Relinquished by: <u>5</u> Date Time: <u>5</u> Received By: <u>5</u> Date Time: <u>5</u>		Custody Seal # <input type="checkbox"/> Intact <input type="checkbox"/> Not intact Preserved where applicable <input type="checkbox"/> On Ice <input type="checkbox"/> Cooler Temp. <u>1.3</u>		Relinquished By: <u>182</u> Date Time: <u>3-26-12</u> Received By: <u>2</u> Date Time: <u>2</u> Received By: <u>4</u> Date Time: <u>4</u>			

MC9052: Chain of Custody

Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC9052

Client: LEA

Immediate Client Services Action Required: No

Date / Time Received: 3/26/2012

Delivery Method:

Client Service Action Required at Login: No

Project: WILLOW POND

No. Coolers: 1

Airbill #'s:

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:			Infrared gun
3. Cooler media:			Ice (bag)

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:			Intact

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Laboratory Name: Accutest New England Client: Loureiro Eng. Associates

Project Location: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT Project Number: 88UT230

Sampling Date(s): 3/26/2012

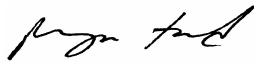
Laboratory Sample ID(s): MC9052-1, MC9052-2, MC9052-3, MC9052-4, MC9052-5, MC9052-6, MC9052-7, MC9052-8, MC9052-9, MC9052-10, MC9052-11, MC9052-12

Methods: CT-ETPH 7/06, SW846 6010C, SW846 7470A, SW846 8082, SW846 8260B

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1A	Where all the method specified preservation and holding time requirements met?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1B	VPH and EPH methods only: Was the VPH or EPH method conducted without significant modifications (See section 11.3 of respective methods)	Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
3	Were samples received at an appropriate temperature (<6° C)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
5	a) Were reporting limits specified or referenced on the chain-of-custody?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	b) Were these reporting limits met?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence".

I, the undersigned, attest under pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized
Signature:  Position: Lab Director
Printed Name: Reza Tand Date: 4/5/2012
Accutest New England

Internal Sample Tracking Chronicle

Loureiro Eng. Associates

Job No: MC9052

UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT
 Project No: 88UT230

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC9052-1 Collected: 26-MAR-12 11:45 By: ACNE Received: 26-MAR-12 By: 1255889						
MC9052-1	SW846 8260B	27-MAR-12 16:55	JP			V8260RCP
MC9052-1	SW846 8082	30-MAR-12 01:20	AP	28-MAR-12 MEW		P8082RCP
MC9052-1	CT-ETPH 7/06	02-APR-12 02:26	KN	28-MAR-12 PA		BCTTPH
MC9052-2 Collected: 26-MAR-12 11:45 By: ACNE Received: 26-MAR-12 By: 1255889UF						
MC9052-2	SW846 6010C	30-MAR-12 01:34	EAL	28-MAR-12 EM		AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC9052-2	SW846 7470A	30-MAR-12 10:51	EM	29-MAR-12 EM		HG
MC9052-3 Collected: 26-MAR-12 13:25 By: ACNE Received: 26-MAR-12 By: 1255890						
MC9052-3	SW846 8260B	27-MAR-12 17:23	JP			V8260RCP
MC9052-3	SW846 8082	30-MAR-12 01:42	AP	28-MAR-12 MEW		P8082RCP
MC9052-3	CT-ETPH 7/06	02-APR-12 01:51	KN	28-MAR-12 PA		BCTTPH
MC9052-4 Collected: 26-MAR-12 13:25 By: ACNE Received: 26-MAR-12 By: 1255890UF						
MC9052-4	SW846 6010C	30-MAR-12 01:38	EAL	28-MAR-12 EM		AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC9052-4	SW846 7470A	30-MAR-12 11:01	EM	29-MAR-12 EM		HG
MC9052-5 Collected: 26-MAR-12 15:20 By: ACNE Received: 26-MAR-12 By: 1255892						
MC9052-5	SW846 8260B	27-MAR-12 17:51	JP			V8260RCP
MC9052-6 Collected: 26-MAR-12 13:10 By: ACNE Received: 26-MAR-12 By: 1255893						
MC9052-6	SW846 8260B	27-MAR-12 18:20	JP			V8260RCP
MC9052-6	SW846 8082	30-MAR-12 07:11	AP	28-MAR-12 MEW		P8082RCP
MC9052-6	CT-ETPH 7/06	02-APR-12 01:15	KN	28-MAR-12 PA		BCTTPH

Internal Sample Tracking Chronicle

Loureiro Eng. Associates

Job No: MC9052

UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Project No: 88UT230

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC9052-7 Collected: 26-MAR-12 13:10 By: ACNE Received: 26-MAR-12 By: 1255893UF						
MC9052-7	SW846 6010C	30-MAR-12 01:43	EAL	28-MAR-12 EM		AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC9052-7	SW846 7470A	30-MAR-12 11:08	EM	29-MAR-12 EM		HG
MC9052-8 Collected: 26-MAR-12 11:50 By: ACNE Received: 26-MAR-12 By: 1255894						
MC9052-8	SW846 8260B	27-MAR-12 18:48	JP			V8260RCP
MC9052-8	SW846 8082	30-MAR-12 07:33	AP	28-MAR-12 MEW		P8082RCP
MC9052-8	CT-ETPH 7/06	02-APR-12 00:40	KN	28-MAR-12 PA		BCTTPH
MC9052-9 Collected: 26-MAR-12 11:50 By: ACNE Received: 26-MAR-12 By: 1255894UF						
MC9052-9	SW846 6010C	30-MAR-12 01:47	EAL	28-MAR-12 EM		AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC9052-9	SW846 7470A	30-MAR-12 11:11	EM	29-MAR-12 EM		HG
MC9052-10 Collected: 26-MAR-12 15:30 By: ACNE Received: 26-MAR-12 By: 1255903						
MC9052-10	SW846 8260B	27-MAR-12 19:16	JP			V8260RCP
MC9052-10	SW846 8082	30-MAR-12 07:55	AP	28-MAR-12 MEW		P8082RCP
MC9052-10	CT-ETPH 7/06	02-APR-12 00:04	KN	28-MAR-12 PA		BCTTPH
MC9052-11 Collected: 26-MAR-12 15:30 By: ACNE Received: 26-MAR-12 By: 1255903UF						
MC9052-11	SW846 6010C	30-MAR-12 01:52	EAL	28-MAR-12 EM		AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC9052-11	SW846 7470A	30-MAR-12 11:13	EM	29-MAR-12 EM		HG
MC9052-12 Collected: 26-MAR-12 11:00 By: ACNE Received: 26-MAR-12 By: 1255904						
MC9052-12	SW846 8260B	29-MAR-12 17:09	JP			V8260RCP

GC/MS Volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

Method Blank Summary

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Job Number: MC9052

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2310-MB	N61760.D	1	03/27/12	JP	n/a	n/a	MSN2310

The QC reported here applies to the following samples:

Method: SW846 8260B

MC9052-1, MC9052-3, MC9052-5, MC9052-6, MC9052-8, MC9052-10

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	

Method Blank Summary

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Job Number: MC9052

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2310-MB	N61760.D	1	03/27/12	JP	n/a	n/a	MSN2310

The QC reported here applies to the following samples:

Method: SW846 8260B

MC9052-1, MC9052-3, MC9052-5, MC9052-6, MC9052-8, MC9052-10

CAS No.	Compound	Result	RL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

Method Blank Summary

Job Number: MC9052
Account: LEA Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2310-MB	N61760.D	1	03/27/12	JP	n/a	n/a	MSN2310

The QC reported here applies to the following samples: Method: SW846 8260B

MC9052-1, MC9052-3, MC9052-5, MC9052-6, MC9052-8, MC9052-10

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	79% 70-130%
2037-26-5	Toluene-D8	84% 70-130%
460-00-4	4-Bromofluorobenzene	94% 70-130%

Method Blank Summary

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Job Number: MC9052**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2314-MB	N61853.D	1	03/29/12	JP	n/a	n/a	MSN2314

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC9052-12

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	

Method Blank Summary

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Job Number: MC9052

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2314-MB	N61853.D	1	03/29/12	JP	n/a	n/a	MSN2314

The QC reported here applies to the following samples:

Method: SW846 8260B

MC9052-12

CAS No.	Compound	Result	RL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

Method Blank Summary

Job Number: MC9052
Account: LEA Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2314-MB	N61853.D	1	03/29/12	JP	n/a	n/a	MSN2314

The QC reported here applies to the following samples: Method: SW846 8260B

MC9052-12

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	79% 70-130%
2037-26-5	Toluene-D8	84% 70-130%
460-00-4	4-Bromofluorobenzene	90% 70-130%

Blank Spike Summary

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Job Number: MC9052**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2310-B5	N61758.D	1	03/27/12	JP	n/a	n/a	MSN2310

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC9052-1, MC9052-3, MC9052-5, MC9052-6, MC9052-8, MC9052-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	82.7	165* a	70-130
107-13-1	Acrylonitrile	50	249	498* a	70-130
71-43-2	Benzene	50	50.8	102	70-130
108-86-1	Bromobenzene	50	50.5	101	70-130
75-27-4	Bromodichloromethane	50	52.1	104	70-130
75-25-2	Bromoform	50	47.8	96	70-130
74-83-9	Bromomethane	50	48.5	97	70-130
78-93-3	2-Butanone (MEK)	50	81.6	163* a	70-130
104-51-8	n-Butylbenzene	50	54.3	109	70-130
135-98-8	sec-Butylbenzene	50	55.5	111	70-130
98-06-6	tert-Butylbenzene	50	53.4	107	70-130
75-15-0	Carbon disulfide	50	56.1	112	70-130
56-23-5	Carbon tetrachloride	50	42.8	86	70-130
108-90-7	Chlorobenzene	50	52.9	106	70-130
75-00-3	Chloroethane	50	50.4	101	70-130
67-66-3	Chloroform	50	50.1	100	70-130
74-87-3	Chloromethane	50	53.8	108	70-130
95-49-8	o-Chlorotoluene	50	51.1	102	70-130
106-43-4	p-Chlorotoluene	50	54.0	108	70-130
96-12-8	1,2-Dibromo-3-chloropropane	50	48.3	97	70-130
124-48-1	Dibromochloromethane	50	49.3	99	70-130
106-93-4	1,2-Dibromoethane	50	51.1	102	70-130
95-50-1	1,2-Dichlorobenzene	50	51.4	103	70-130
541-73-1	1,3-Dichlorobenzene	50	52.4	105	70-130
106-46-7	1,4-Dichlorobenzene	50	51.9	104	70-130
75-71-8	Dichlorodifluoromethane	50	56.2	112	70-130
75-34-3	1,1-Dichloroethane	50	50.3	101	70-130
107-06-2	1,2-Dichloroethane	50	47.6	95	70-130
75-35-4	1,1-Dichloroethene	50	51.6	103	70-130
156-59-2	cis-1,2-Dichloroethene	50	50.7	101	70-130
156-60-5	trans-1,2-Dichloroethene	50	50.8	102	70-130
78-87-5	1,2-Dichloropropane	50	49.3	99	70-130
142-28-9	1,3-Dichloropropane	50	48.6	97	70-130
594-20-7	2,2-Dichloropropane	50	33.2	66* b	70-130
563-58-6	1,1-Dichloropropene	50	53.3	107	70-130
10061-01-5	cis-1,3-Dichloropropene	50	45.3	91	70-130

Blank Spike Summary

Job Number: MC9052**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2310-BS	N61758.D	1	03/27/12	JP	n/a	n/a	MSN2310

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC9052-1, MC9052-3, MC9052-5, MC9052-6, MC9052-8, MC9052-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	46.9	94	70-130
100-41-4	Ethylbenzene	50	54.3	109	70-130
76-13-1	Freon 113	50	52.9	106	70-130
87-68-3	Hexachlorobutadiene	50	53.8	108	70-130
591-78-6	2-Hexanone	50	72.7	145* b	70-130
98-82-8	Isopropylbenzene	50	62.5	125	70-130
99-87-6	p-Isopropyltoluene	50	56.1	112	70-130
1634-04-4	Methyl Tert Butyl Ether	50	31.5	63* b	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	51.8	104	70-130
74-95-3	Methylene bromide	50	50.4	101	70-130
75-09-2	Methylene chloride	50	49.5	99	70-130
91-20-3	Naphthalene	50	49.9	100	70-130
103-65-1	n-Propylbenzene	50	54.3	109	70-130
100-42-5	Styrene	50	52.5	105	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	53.1	106	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	50.3	101	70-130
127-18-4	Tetrachloroethene	50	54.4	109	70-130
109-99-9	Tetrahydrofuran	50	49.7	99	70-130
108-88-3	Toluene	50	54.0	108	70-130
110-57-6	Trans-1,4-Dichloro-2-Butene	50	40.8	82	70-130
87-61-6	1,2,3-Trichlorobenzene	50	51.3	103	70-130
120-82-1	1,2,4-Trichlorobenzene	50	52.5	105	70-130
71-55-6	1,1,1-Trichloroethane	50	44.9	90	70-130
79-00-5	1,1,2-Trichloroethane	50	49.8	100	70-130
79-01-6	Trichloroethene	50	49.4	99	70-130
75-69-4	Trichlorofluoromethane	50	51.0	102	70-130
96-18-4	1,2,3-Trichloropropane	50	47.5	95	70-130
95-63-6	1,2,4-Trimethylbenzene	50	52.9	106	70-130
108-67-8	1,3,5-Trimethylbenzene	50	53.5	107	70-130
75-01-4	Vinyl chloride	50	49.9	100	70-130
	m,p-Xylene	100	115	115	70-130
95-47-6	o-Xylene	50	53.2	106	70-130

Blank Spike Summary

Page 3 of 3

Job Number: MC9052

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2310-BS	N61758.D	1	03/27/12	JP	n/a	n/a	MSN2310

The QC reported here applies to the following samples:

Method: SW846 8260B

MC9052-1, MC9052-3, MC9052-5, MC9052-6, MC9052-8, MC9052-10

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	80%	70-130%
2037-26-5	Toluene-D8	85%	70-130%
460-00-4	4-Bromofluorobenzene	83%	70-130%

- (a) Outside control limits. Associated samples are non-detect for this compound.
(b) Outside control limits. Blank Spike meets program technical requirements.

Blank Spike Summary

Page 1 of 3

Job Number: MC9052**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2314-B5	N61851.D	1	03/29/12	JP	n/a	n/a	MSN2314

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC9052-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	79.7	159* a	70-130
107-13-1	Acrylonitrile	50	228	456* b	70-130
71-43-2	Benzene	50	49.8	100	70-130
108-86-1	Bromobenzene	50	49.9	100	70-130
75-27-4	Bromodichloromethane	50	51.6	103	70-130
75-25-2	Bromoform	50	44.6	89	70-130
74-83-9	Bromomethane	50	44.4	89	70-130
78-93-3	2-Butanone (MEK)	50	74.6	149* a	70-130
104-51-8	n-Butylbenzene	50	54.6	109	70-130
135-98-8	sec-Butylbenzene	50	54.3	109	70-130
98-06-6	tert-Butylbenzene	50	52.2	104	70-130
75-15-0	Carbon disulfide	50	54.4	109	70-130
56-23-5	Carbon tetrachloride	50	40.8	82	70-130
108-90-7	Chlorobenzene	50	50.5	101	70-130
75-00-3	Chloroethane	50	48.6	97	70-130
67-66-3	Chloroform	50	48.7	97	70-130
74-87-3	Chloromethane	50	46.6	93	70-130
95-49-8	o-Chlorotoluene	50	49.9	100	70-130
106-43-4	p-Chlorotoluene	50	52.8	106	70-130
96-12-8	1,2-Dibromo-3-chloropropane	50	46.9	94	70-130
124-48-1	Dibromochloromethane	50	47.4	95	70-130
106-93-4	1,2-Dibromoethane	50	48.4	97	70-130
95-50-1	1,2-Dichlorobenzene	50	51.3	103	70-130
541-73-1	1,3-Dichlorobenzene	50	51.0	102	70-130
106-46-7	1,4-Dichlorobenzene	50	51.0	102	70-130
75-71-8	Dichlorodifluoromethane	50	51.0	102	70-130
75-34-3	1,1-Dichloroethane	50	48.7	97	70-130
107-06-2	1,2-Dichloroethane	50	45.8	92	70-130
75-35-4	1,1-Dichloroethene	50	49.8	100	70-130
156-59-2	cis-1,2-Dichloroethene	50	48.9	98	70-130
156-60-5	trans-1,2-Dichloroethene	50	49.1	98	70-130
78-87-5	1,2-Dichloropropane	50	48.1	96	70-130
142-28-9	1,3-Dichloropropane	50	46.1	92	70-130
594-20-7	2,2-Dichloropropane	50	35.6	71	70-130
563-58-6	1,1-Dichloropropene	50	52.2	104	70-130
10061-01-5	cis-1,3-Dichloropropene	50	44.3	89	70-130

Blank Spike Summary

Page 2 of 3

Job Number: MC9052**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2314-BS	N61851.D	1	03/29/12	JP	n/a	n/a	MSN2314

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC9052-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	45.3	91	70-130
100-41-4	Ethylbenzene	50	51.6	103	70-130
76-13-1	Freon 113	50	51.2	102	70-130
87-68-3	Hexachlorobutadiene	50	53.5	107	70-130
591-78-6	2-Hexanone	50	67.2	134* a	70-130
98-82-8	Isopropylbenzene	50	61.3	123	70-130
99-87-6	p-Isopropyltoluene	50	55.3	111	70-130
1634-04-4	Methyl Tert Butyl Ether	50	33.5	67* a	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	47.7	95	70-130
74-95-3	Methylene bromide	50	49.6	99	70-130
75-09-2	Methylene chloride	50	47.5	95	70-130
91-20-3	Naphthalene	50	51.7	103	70-130
103-65-1	n-Propylbenzene	50	53.2	106	70-130
100-42-5	Styrene	50	49.4	99	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	50.5	101	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	47.7	95	70-130
127-18-4	Tetrachloroethene	50	53.5	107	70-130
109-99-9	Tetrahydrofuran	50	45.4	91	70-130
108-88-3	Toluene	50	52.6	105	70-130
110-57-6	Trans-1,4-Dichloro-2-Butene	50	41.4	83	70-130
87-61-6	1,2,3-Trichlorobenzene	50	53.5	107	70-130
120-82-1	1,2,4-Trichlorobenzene	50	53.7	107	70-130
71-55-6	1,1,1-Trichloroethane	50	44.2	88	70-130
79-00-5	1,1,2-Trichloroethane	50	48.0	96	70-130
79-01-6	Trichloroethene	50	49.0	98	70-130
75-69-4	Trichlorofluoromethane	50	48.7	97	70-130
96-18-4	1,2,3-Trichloropropane	50	46.0	92	70-130
95-63-6	1,2,4-Trimethylbenzene	50	52.8	106	70-130
108-67-8	1,3,5-Trimethylbenzene	50	52.7	105	70-130
75-01-4	Vinyl chloride	50	44.9	90	70-130
	m,p-Xylene	100	110	110	70-130
95-47-6	o-Xylene	50	50.4	101	70-130

Blank Spike Summary

Page 3 of 3

Job Number: MC9052

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2314-BS	N61851.D	1	03/29/12	JP	n/a	n/a	MSN2314

The QC reported here applies to the following samples:

Method: SW846 8260B

MC9052-12

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	80%	70-130%
2037-26-5	Toluene-D8	85%	70-130%
460-00-4	4-Bromofluorobenzene	83%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

(b) Outside control limits. Associated samples are non-detect for this compound.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: MC9052

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Check Std: MSN2310-CC2292

Injection Date: 03/27/12

Lab File ID: N61757.D

Injection Time: 14:05

Instrument ID: GCMSN

Method: SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	316876	9.02	556613	9.89	298708	13.15	231711	15.71	144803	6.57
Upper Limit ^a	633752	9.52	1113226	10.39	597416	13.65	463422	16.21	289606	7.07
Lower Limit ^b	158438	8.52	278307	9.39	149354	12.65	115856	15.21	72402	6.07

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2310-BS	322973	9.02	566811	9.89	309381	13.15	237512	15.71	167928	6.57
MSN2310-MB	303864	9.02	534626	9.89	276004	13.15	179465	15.71	132091	6.59
ZZZZZZ	293419	9.02	521374	9.89	276694	13.15	171003	15.72	119307	6.59
ZZZZZZ	286451	9.02	512682	9.89	267570	13.15	164355	15.71	114380	6.58
MC9052-1	269222	9.02	493557	9.89	259619	13.15	154295	15.72	105042	6.59
MC9052-3	269013	9.02	484026	9.89	255681	13.15	154840	15.71	101215	6.59
MC9052-5	260840	9.02	473137	9.89	248011	13.15	144999	15.71	113052	6.58
MC9052-6	260508	9.02	469880	9.89	249658	13.15	144790	15.71	103434	6.59
MC9052-8	256488	9.02	466064	9.89	244807	13.15	142112	15.72	109011	6.58
MC9052-10	249201	9.02	449473	9.89	236787	13.15	137731	15.71	113560	6.58
ZZZZZZ	247841	9.02	455926	9.89	239908	13.15	145705	15.71	117352	6.58
ZZZZZZ	242976	9.02	440726	9.89	231647	13.15	139269	15.71	108669	6.58
ZZZZZZ	240482	9.02	441292	9.89	234007	13.15	142850	15.72	119458	6.58
ZZZZZZ	243997	9.02	449513	9.89	236960	13.15	145800	15.71	103159	6.58
ZZZZZZ	238338	9.02	439472	9.90	233421	13.15	140951	15.71	100716	6.58
ZZZZZZ	236212	9.02	438663	9.89	232703	13.15	142316	15.72	98580	6.58
ZZZZZZ	232486	9.02	434402	9.89	231262	13.15	139190	15.71	103399	6.58
ZZZZZZ	235307	9.02	431860	9.89	230946	13.15	142646	15.71	103565	6.58
MC9005-2	231985	9.02	426583	9.89	224015	13.15	133743	15.71	94492	6.58
MC9005-2MS	247098	9.02	450592	9.89	252935	13.15	191027	15.71	117145	6.57
MC9005-2MSD	270352	9.02	485079	9.89	277122	13.15	203365	15.71	128694	6.57

IS 1 = Pentafluorobenzene

IS 2 = 1,4-Difluorobenzene

IS 3 = Chlorobenzene-D5

IS 4 = 1,4-Dichlorobenzene-d4

IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: MC9052

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Check Std: MSN2314-CC2292

Injection Date: 03/29/12

Lab File ID: N61850.D

Injection Time: 15:16

Instrument ID: GCMSN

Method: SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	320288	9.02	563873	9.89	316425	13.15	239538	15.71	162547	6.57
Upper Limit ^a	640576	9.52	1127746	10.39	632850	13.65	479076	16.21	325094	7.07
Lower Limit ^b	160144	8.52	281937	9.39	158213	12.65	119769	15.21	81274	6.07

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2314-BS	330670	9.02	574918	9.89	321371	13.15	240072	15.71	147599	6.57
MSN2314-MB	309980	9.02	548078	9.89	286207	13.15	193299	15.71	133510	6.58
MC9052-12	300621	9.03	538156	9.90	279451	13.15	187498	15.71	123017	6.59
ZZZZZZ	285270	9.02	515633	9.89	272405	13.15	177439	15.71	131210	6.58
ZZZZZZ	288035	9.02	516713	9.90	270895	13.15	177681	15.71	137639	6.58
ZZZZZZ	284509	9.02	506023	9.89	266677	13.15	173743	15.71	112802	6.58
ZZZZZZ	276153	9.02	498079	9.89	262141	13.15	171575	15.71	106324	6.58
ZZZZZZ	275840	9.02	497396	9.89	260143	13.15	167546	15.71	109768	6.58
ZZZZZZ	271267	9.02	487284	9.89	254565	13.15	166292	15.71	111140	6.58
ZZZZZZ	263845	9.02	477942	9.90	255552	13.15	161828	15.71	126006	6.58
ZZZZZZ	270137	9.02	490795	9.89	258889	13.15	178925	15.71	121505	6.58
ZZZZZZ	259989	9.02	468604	9.89	254541	13.15	162809	15.71	104401	6.58
ZZZZZZ	263856	9.02	479912	9.90	256895	13.15	163661	15.71	116554	6.58
ZZZZZZ	260849	9.02	479661	9.89	250087	13.15	169994	15.71	120044	6.58
ZZZZZZ	268961	9.02	484508	9.89	252819	13.15	165527	15.71	128323	6.58
ZZZZZZ	258999	9.02	470641	9.89	251433	13.15	163293	15.71	113040	6.58
ZZZZZZ	251765	9.02	458733	9.89	241908	13.15	154717	15.71	109752	6.58
ZZZZZZ	251999	9.02	458765	9.90	240997	13.16	155186	15.72	97937	6.58
ZZZZZZ	252842	9.02	451313	9.89	236926	13.15	152038	15.71	104485	6.58
ZZZZZZ	253075	9.02	463216	9.89	240157	13.15	155529	15.71	116652	6.58
ZZZZZZ	244694	9.02	457575	9.90	241085	13.15	149412	15.72	116494	6.58

IS 1 = Pentafluorobenzene

IS 2 = 1,4-Difluorobenzene

IS 3 = Chlorobenzene-D5

IS 4 = 1,4-Dichlorobenzene-d4

IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Page 1 of 1

Job Number: MC9052

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Method: SW846 8260B

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC9052-1	N61763.D	84.0	84.0	100.0
MC9052-3	N61764.D	82.0	84.0	97.0
MC9052-5	N61765.D	84.0	84.0	101.0
MC9052-6	N61766.D	82.0	85.0	99.0
MC9052-8	N61767.D	84.0	84.0	100.0
MC9052-10	N61768.D	84.0	85.0	100.0
MC9052-12	N61854.D	80.0	84.0	91.0
MSN2310-BS	N61758.D	80.0	85.0	83.0
MSN2310-MB	N61760.D	79.0	84.0	94.0
MSN2314-BS	N61851.D	80.0	85.0	83.0
MSN2314-MB	N61853.D	79.0	84.0	90.0

Surrogate Compounds

Recovery Limits

S1 = Dibromofluoromethane

70-130%

S2 = Toluene-D8

70-130%

S3 = 4-Bromofluorobenzene

70-130%

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Page 1 of 1

Job Number: MC9052

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP28371-MB	BG34680.D	1	04/01/12	KN	03/28/12	OP28371	GBG1276

The QC reported here applies to the following samples:

Method: CT-ETPH 7/06

MC9052-1, MC9052-3, MC9052-6, MC9052-8, MC9052-10

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.080	mg/l	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	116% 50-149%

Method Blank Summary

Page 1 of 1

Job Number: MC9052

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP28373-MB	BE30023.D	1	03/30/12	AP	03/28/12	OP28373	GBE1672

The QC reported here applies to the following samples:

Method: SW846 8082

MC9052-1, MC9052-3, MC9052-6, MC9052-8, MC9052-10

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.25	ug/l	
11141-16-5	Aroclor 1232	ND	0.25	ug/l	
53469-21-9	Aroclor 1242	ND	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.25	ug/l	
37324-23-5	Aroclor 1262	ND	0.25	ug/l	
11100-14-4	Aroclor 1268	ND	0.25	ug/l	

CAS No.	Surrogate Recoveries	Limits
877-09-8	Tetrachloro-m-xylene	115% 30-150%
877-09-8	Tetrachloro-m-xylene	117% 30-150%
2051-24-3	Decachlorobiphenyl	117% 30-150%
2051-24-3	Decachlorobiphenyl	120% 30-150%

Blank Spike Summary

Page 1 of 1

Job Number: MC9052

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP28371-BS	BG34682.D	1	04/01/12	KN	03/28/12	OP28371	GBG1276

The QC reported here applies to the following samples:

Method: CT-ETPH 7/06

MC9052-1, MC9052-3, MC9052-6, MC9052-8, MC9052-10

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	CT-ETPH (C9-C36)	0.7	0.534	76	60-120

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	116%	50-149%

Blank Spike Summary

Page 1 of 1

Job Number: MC9052

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP28373-BS	BE30024.D	1	03/30/12	AP	03/28/12	OP28373	GBE1672

The QC reported here applies to the following samples:

Method: SW846 8082

MC9052-1, MC9052-3, MC9052-6, MC9052-8, MC9052-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
12674-11-2	Aroclor 1016	2	1.8	90	40-140
11104-28-2	Aroclor 1221		ND		40-140
11141-16-5	Aroclor 1232		ND		40-140
53469-21-9	Aroclor 1242		ND		40-140
12672-29-6	Aroclor 1248		ND		40-140
11097-69-1	Aroclor 1254		ND		40-140
11096-82-5	Aroclor 1260	2	1.7	85	40-140
37324-23-5	Aroclor 1262		ND		40-140
11100-14-4	Aroclor 1268		ND		40-140

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	116%	30-150%
877-09-8	Tetrachloro-m-xylene	117%	30-150%
2051-24-3	Decachlorobiphenyl	102%	30-150%
2051-24-3	Decachlorobiphenyl	99%	30-150%

Semivolatile Surrogate Recovery Summary

Job Number: MC9052
Account: LEA Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Method: CT-ETPH 7/06	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a
MC9052-1	BG34710.D	115.0
MC9052-3	BG34708.D	107.0
MC9052-6	BG34706.D	113.0
MC9052-8	BG34704.D	108.0
MC9052-10	BG34702.D	114.0
OP28371-BS	BG34682.D	116.0
OP28371-MB	BG34680.D	116.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	50-149%

(a) Recovery from GC signal #1

Semivolatile Surrogate Recovery Summary

Page 1 of 1

Job Number: MC9052

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Method: SW846 8082

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a	S1 ^b	S2 ^a	S2 ^b
MC9052-1	BE29994.D	85.0	82.0	77.0	75.0
MC9052-3	BE29995.D	75.0	71.0	42.0	40.0
MC9052-6	BE29996.D	81.0	75.0	64.0	61.0
MC9052-8	BE29997.D	77.0	79.0	57.0	53.0
MC9052-10	BE29998.D	148.0	146.0	139.0	144.0
OP28373-BS	BE30024.D	116.0	117.0	102.0	99.0
OP28373-MB	BE30023.D	115.0	117.0	117.0	120.0

Surrogate Compounds

Recovery Limits

S1 = Tetrachloro-m-xylene

30-150%

S2 = Decachlorobiphenyl

30-150%

(a) Recovery from GC signal #1

(b) Recovery from GC signal #2

6.3.2

6

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC9052
Account: LEA - Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18780
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/28/12 03/28/12

Metal	RL	IDL	MDL	MB raw	final	MB raw	final
Aluminum	200	12	21				
Antimony	6.0	1.1	1.7				
Arsenic	4.0	.88	1.9	-0.20	<4.0	0.0	<4.0
Barium	50	.24	.65	0.0	<50	0.0	<50
Beryllium	4.0	.15	.28				
Boron	100	.39	.59				
Cadmium	4.0	.12	.17	0.10	<4.0	0.10	<4.0
Calcium	5000	5.8	17				
Chromium	10	.65	.7	0.20	<10	0.30	<10
Cobalt	50	.13	.38				
Copper	25	.48	1.4	0.40	<25	0.0	<25
Gold	50	2	2.7				
Iron	100	3.5	11				
Lead	5.0	1.3	2.1	0.20	<5.0	0.10	<5.0
Magnesium	5000	34	60				
Manganese	15	.15	.54				
Molybdenum	100	.53	1.5				
Nickel	40	.22	.7	0.20	<40	0.30	<40
Palladium	50	3.2	7.9				
Platinum	50	6.4	9.6				
Potassium	5000	42	190				
Selenium	10	1.5	2	0.70	<10	0.10	<10
Silicon	100	1.1	8.4				
Silver	5.0	.71	1.3	0.80	<5.0	0.50	<5.0
Sodium	5000	14	40				
Strontium	10	.19	.35				
Thallium	5.0	.71	1.4				
Tin	100	.43	.6				
Titanium	50	.46	.72				
Tungsten	100	6.9	14				
Vanadium	10	.7	1.3				
Zinc	20	1.2	4	0.20	<20	3.5	<20

Associated samples MP18780: MC9052-2, MC9052-4, MC9052-7, MC9052-9, MC9052-11

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC9052
Account: LEA - Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18780
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC9052

Account: LEA - Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18780

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

03/28/12

03/28/12

Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony	anr								
Arsenic	521	500	104.2	80-120	522	500	104.4	0.2	20
Barium	2000	2000	100.0	80-120	2000	2000	100.0	0.0	20
Beryllium	anr								
Boron									
Cadmium	507	500	101.4	80-120	509	500	101.8	0.4	20
Calcium									
Chromium	519	500	103.8	80-120	520	500	104.0	0.2	20
Cobalt									
Copper	487	500	97.4	80-120	491	500	98.2	0.8	20
Gold									
Iron	anr								
Lead	1000	1000	100.0	80-120	1000	1000	100.0	0.0	20
Magnesium									
Manganese									
Molybdenum									
Nickel	507	500	101.4	80-120	509	500	101.8	0.4	20
Palladium									
Platinum									
Potassium									
Selenium	505	500	101.0	80-120	505	500	101.0	0.0	20
Silicon									
Silver	204	200	102.0	80-120	204	200	102.0	0.0	20
Sodium									
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	518	500	103.6	80-120	521	500	104.2	0.6	20

Associated samples MP18780: MC9052-2, MC9052-4, MC9052-7, MC9052-9, MC9052-11

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC9052

Account: LEA - Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18780

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC9052

Account: LEA - Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18780

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 03/28/12

Metal	MC9076-1F Original SDL 1:5		%DIF	QC Limits
Aluminum				
Antimony	anr			
Arsenic	0.00	0.00	NC	0-10
Barium	181	178	1.7	0-10
Beryllium	anr			
Boron				
Cadmium	0.200	0.00	100.0(a)	0-10
Calcium				
Chromium	0.00	0.00	NC	0-10
Cobalt				
Copper	2.20	2.50	13.6 (a)	0-10
Gold				
Iron	anr			
Lead	0.00	0.00	NC	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel	1.00	1.90	90.0 (a)	0-10
Palladium				
Platinum				
Potassium				
Selenium	3.00	0.00	100.0(a)	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Tungsten				
Vanadium	anr			
Zinc	11.5	12.2	6.1	0-10

Associated samples MP18780: MC9052-2, MC9052-4, MC9052-7, MC9052-9, MC9052-11

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC9052

Account: LEA - Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18780

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

7.1.3

7

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC9052
Account: LEA - Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18790
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 03/29/12

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.021	.062	-0.077	<0.20

Associated samples MP18790: MC9052-2, MC9052-4, MC9052-7, MC9052-9, MC9052-11

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.2.1

7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC9052
 Account: LEA - Loureiro Eng. Associates
 Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18790
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 03/29/12

Metal	MC9052-2		SpikeLot		QC
	Original	MS	HGRWS1	% Rec	Limits
Mercury	0.0	3.1	3	103.3	75-125

Associated samples MP18790: MC9052-2, MC9052-4, MC9052-7, MC9052-9, MC9052-11

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

7.2.2

7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC9052
 Account: LEA - Loureiro Eng. Associates
 Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18790 Methods: SW846 7470A
 Matrix Type: AQUEOUS Units: ug/l

Prep Date: 03/29/12

Metal	MC9052-2 Original	MSD	SpikeLot HGRWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.0	3	100.0	3.3	20

Associated samples MP18790: MC9052-2, MC9052-4, MC9052-7, MC9052-9, MC9052-11

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC9052
 Account: LEA - Loureiro Eng. Associates
 Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18790
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 03/29/12 03/29/12

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits	BSD Result	Spikelot HGRWS1	% Rec	BSD RPD	QC Limit
Mercury	3.0	3	100.0	80-120	3.0	3	100.0	0.0	20

Associated samples MP18790: MC9052-2, MC9052-4, MC9052-7, MC9052-9, MC9052-11

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested



04/10/12

Technical Report for

Loureiro Eng. Associates

UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

88UT230

Accutest Job Number: MC9090

Sampling Date: 03/27/12

Report to:

Loureiro Eng. Associates

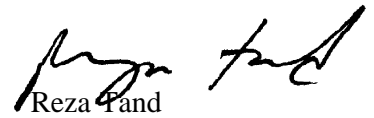
jttrzaski@loureiro.com

ATTN: Joseph Trzaski

Total number of pages in report: **119**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.


Reza Pand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) ISO 17025:2005 (L2235)

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Test results relate only to samples analyzed.

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Sample Summary

Loureiro Eng. Associates

Job No: MC9090

UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Project No: 88UT230

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC9090-1	03/27/12	13:45 DR	03/27/12	AQ	Ground Water	1255891
MC9090-2	03/27/12	13:45 DR	03/27/12	AQ	Ground Water	1255891UF
MC9090-3	03/27/12	09:45 DR	03/27/12	AQ	Ground Water	1255895
MC9090-4	03/27/12	09:45 DR	03/27/12	AQ	Ground Water	1255895UF
MC9090-5	03/27/12	11:30 DR	03/27/12	AQ	Ground Water	1255896
MC9090-6	03/27/12	11:30 DR	03/27/12	AQ	Ground Water	1255896UF
MC9090-7	03/27/12	09:35 DR	03/27/12	AQ	Ground Water	1255897
MC9090-8	03/27/12	09:35 DR	03/27/12	AQ	Ground Water	1255897UF
MC9090-9	03/27/12	11:20 DR	03/27/12	AQ	Ground Water	1255898
MC9090-10	03/27/12	11:20 DR	03/27/12	AQ	Ground Water	1255898UF
MC9090-11	03/27/12	13:50 DR	03/27/12	AQ	Ground Water	1255899
MC9090-12	03/27/12	13:50 DR	03/27/12	AQ	Ground Water	1255899UF
MC9090-13	03/27/12	15:10 DR	03/27/12	AQ	Ground Water	1255900



Sample Summary
(continued)

Loureiro Eng. Associates

Job No: MC9090

UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT
Project No: 88UT230

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC9090-14	03/27/12	15:10 DR	03/27/12	AQ	Ground Water	1255900UF
MC9090-15	03/27/12	11:20 DR	03/27/12	AQ	Ground Water	1255901
MC9090-16	03/27/12	11:20 DR	03/27/12	AQ	Ground Water	1255901UF
MC9090-17	03/27/12	09:00 DR	03/27/12	AQ	Ground Water	1255902

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Loureiro Eng. Associates

Job No MC9090

Site: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford,

Report Date 4/10/2012 3:46:58 PM

17 Samples were collected on 03/27/2012 and were received at Accutest on 03/27/2012 properly preserved, at 0.9 Deg. C and intact. These Samples received an Accutest job number of MC9090. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix AQ

Batch ID: MSL2090

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- BS/BSD Recovery(s) for Dichlorodifluoromethane are outside control limits. Blank Spike meets program technical requirements.
- MSL2090-BS/BSD for Acetone: Outside control limits. Associated samples are non-detect for this compound.
- Continuing calibration check standard MSL2090-CC2084 for acetone, 2,2-dichloropropane exceeds 30% Difference. This check standard met RCP criteria.

Matrix AQ

Batch ID: MSN2321

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC9090-7MS, MC9090-7MSD were used as the QC samples indicated.
- Blank Spike Recovery(s) for 2,2-Dichloropropane, 2-Butanone (MEK), 2-Hexanone, Acetone are outside control limits. Blank Spike meets program technical requirements.
- Quadratic regression is employed for initial calibration standard in batch MSN2292-ICC2292 for carbon tetrachloride.
- Initial calibration verification standard MSN2292-ICV2292 for Acetone, 2-butanone, 2-hexanone exceeds 35% Difference.
- MSN2321-BS/MS/MSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- Continuing calibration check standard MSN2321-CC2292 for acetone, 2-butanone, 2,2-Dichloropropane, 2-hexanone exceeds 30% Difference. This check standard met RCP criteria.

Matrix AQ

Batch ID: MSP1960

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- MC9090-11 for 4-Bromofluorobenzene: Outside control limits due to possible matrix interference. Confirmed by reanalysis.
- MC9090-9 for 4-Bromofluorobenzene: Outside control limits due to possible matrix interference. Confirmed by reanalysis.

Matrix AQ

Batch ID: MSV290

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Blank Spike Recovery(s) for 2-Butanone (MEK), Acetone are outside control limits. Blank Spike meets program technical requirements.
- Blank Spike Duplicate Recovery(s) for Dichlorodifluoromethane are outside control limits. Blank Spike meets program technical requirements.
- MSV290-BS/BSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.

Extractables by GC By Method CT-ETPH 7/06

Matrix AQ

Batch ID: OP28390

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Matrix AQ

Batch ID: OP28404

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Extractables by GC By Method SW846 8082

Matrix AQ

Batch ID: OP28373

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- MC9090-13 for Tetrachloro-m-xylene: Outside control limits due to possible matrix interference.

Metals By Method SW846 6010C

Matrix AQ

Batch ID: MP18786

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC9090-12MS, MC9090-12MSD, MC9090-12SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Cadmium, Chromium, Copper, Nickel are outside control limits for sample MP18786-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- Only selected metals requested.

Metals By Method SW846 7470A

Matrix AQ

Batch ID: MP18790

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report (MC9090).

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	1255891	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-1	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N62046.D	1	04/04/12	JP	n/a	n/a	MSN2321
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255891	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-1	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	76%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255891	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-1	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	83%		70-130%
460-00-4	4-Bromofluorobenzene	84%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255891	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-1	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	CT-ETPH 7/06 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BG34601.D	1	03/31/12	KN	03/29/12	OP28390	GBG1272
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.082	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	140%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255891	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-1	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK11162.D	1	04/01/12	AP	03/28/12	OP28373	GBK459
Run #2							

	Initial Volume	Final Volume
Run #1	960 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.26	ug/l	
11104-28-2	Aroclor 1221	ND	0.26	ug/l	
11141-16-5	Aroclor 1232	ND	0.26	ug/l	
53469-21-9	Aroclor 1242	ND	0.26	ug/l	
12672-29-6	Aroclor 1248	ND	0.26	ug/l	
11097-69-1	Aroclor 1254	ND	0.26	ug/l	
11096-82-5	Aroclor 1260	ND	0.26	ug/l	
37324-23-5	Aroclor 1262	ND	0.26	ug/l	
11100-14-4	Aroclor 1268	ND	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	121%		30-150%
877-09-8	Tetrachloro-m-xylene	92%		30-150%
2051-24-3	Decachlorobiphenyl	80%		30-150%
2051-24-3	Decachlorobiphenyl	86%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255891UF	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-2	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Barium	< 50	50	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Copper	< 25	25	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	03/29/12	03/30/12	EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Zinc	< 20	20	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14117

(2) Instrument QC Batch: MA14120

(3) Prep QC Batch: MP18786

(4) Prep QC Batch: MP18790

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1255895	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-3	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N62047.D	1	04/04/12	JP	n/a	n/a	MSN2321
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	8.5	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	3.6	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255895	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-3	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	1.2	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	77%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255895	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-3	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	85%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255895	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-3	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	CT-ETPH 7/06 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BG34592.D	1	03/30/12	KN	03/29/12	OP28390	GBG1272
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	0.151	0.084	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	112%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255895	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-3	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK11163.D	1	04/01/12	AP	03/28/12	OP28373	GBK459
Run #2							

	Initial Volume	Final Volume
Run #1	920 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.27	ug/l	
11104-28-2	Aroclor 1221	ND	0.27	ug/l	
11141-16-5	Aroclor 1232	ND	0.27	ug/l	
53469-21-9	Aroclor 1242	ND	0.27	ug/l	
12672-29-6	Aroclor 1248	ND	0.27	ug/l	
11097-69-1	Aroclor 1254	ND	0.27	ug/l	
11096-82-5	Aroclor 1260	ND	0.27	ug/l	
37324-23-5	Aroclor 1262	ND	0.27	ug/l	
11100-14-4	Aroclor 1268	ND	0.27	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	82%		30-150%
877-09-8	Tetrachloro-m-xylene	89%		30-150%
2051-24-3	Decachlorobiphenyl	76%		30-150%
2051-24-3	Decachlorobiphenyl	83%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1255895UF	Date Sampled: 03/27/12
Lab Sample ID: MC9090-4	Date Received: 03/27/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Barium	376	50	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Copper	< 25	25	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	03/29/12	03/30/12 EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Zinc	< 20	20	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14117

(2) Instrument QC Batch: MA14120

(3) Prep QC Batch: MP18786

(4) Prep QC Batch: MP18790

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1255896	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-5	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N62048.D	1	04/04/12	JP	n/a	n/a	MSN2321
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255896	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-5	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	77%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255896	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-5	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	84%		70-130%
460-00-4	4-Bromofluorobenzene	89%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255896	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-5	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	CT-ETPH 7/06 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BG34593.D	1	03/30/12	KN	03/29/12	OP28390	GBG1272
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.084	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	124%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255896	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-5	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK11165.D	1	04/01/12	AP	03/28/12	OP28373	GBK459
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.25	ug/l	
11141-16-5	Aroclor 1232	ND	0.25	ug/l	
53469-21-9	Aroclor 1242	ND	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.25	ug/l	
37324-23-5	Aroclor 1262	ND	0.25	ug/l	
11100-14-4	Aroclor 1268	ND	0.25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	90%		30-150%
877-09-8	Tetrachloro-m-xylene	80%		30-150%
2051-24-3	Decachlorobiphenyl	84%		30-150%
2051-24-3	Decachlorobiphenyl	91%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255896UF	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-6	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Barium	< 50	50	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Copper	< 25	25	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	03/29/12	03/30/12	EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Zinc	20.9	20	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14117

(2) Instrument QC Batch: MA14120

(3) Prep QC Batch: MP18786

(4) Prep QC Batch: MP18790

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1255897	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-7	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N62049.D	1	04/04/12	JP	n/a	n/a	MSN2321
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	3.0	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	14.6	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	5.7	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	3.5	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	55.9	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255897	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-7	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	3.5	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	185	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	257	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	6.0	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	77%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255897	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-7	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	84%		70-130%
460-00-4	4-Bromofluorobenzene	88%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255897	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-7	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	CT-ETPH 7/06 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BG34703.D	1	04/02/12	KN	03/31/12	OP28404	GBG1275
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	0.297	0.086	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	91%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255897	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-7	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK11166.D	1	04/01/12	AP	03/28/12	OP28373	GBK459
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.25	ug/l	
11141-16-5	Aroclor 1232	ND	0.25	ug/l	
53469-21-9	Aroclor 1242	ND	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.25	ug/l	
37324-23-5	Aroclor 1262	ND	0.25	ug/l	
11100-14-4	Aroclor 1268	ND	0.25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	88%		30-150%
877-09-8	Tetrachloro-m-xylene	103%		30-150%
2051-24-3	Decachlorobiphenyl	110%		30-150%
2051-24-3	Decachlorobiphenyl	121%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255897UF	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-8	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Barium	< 50	50	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Copper	60.9	25	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	03/29/12	03/30/12	EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	239	40	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Zinc	< 20	20	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14117

(2) Instrument QC Batch: MA14120

(3) Prep QC Batch: MP18786

(4) Prep QC Batch: MP18790

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1255898	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-9	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L61930.D	1	04/04/12	EK	n/a	n/a	MSL2090
Run #2	P60445.D	10	04/05/12	AMY	n/a	n/a	MSP1960

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	0.77	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	6.6	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	26.0	2.0	ug/l	
67-66-3	Chloroform	2.0	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	9.6	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	162	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	65.7	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255898	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-9	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	71.7	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	51.8	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	420 ^a	10	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	11.1	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%	110%	70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255898	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-9	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	96%	120%	70-130%
460-00-4	4-Bromofluorobenzene	105%	139% ^b	70-130%

(a) Result is from Run# 2

(b) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255898	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-9	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	CT-ETPH 7/06 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BG34709.D	1	04/02/12	KN	03/31/12	OP28404	GBG1275
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	0.228	0.080	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	89%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255898	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-9	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK11167.D	1	04/01/12	AP	03/28/12	OP28373	GBK459
Run #2							

	Initial Volume	Final Volume
Run #1	860 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.29	ug/l	
11104-28-2	Aroclor 1221	ND	0.29	ug/l	
11141-16-5	Aroclor 1232	ND	0.29	ug/l	
53469-21-9	Aroclor 1242	ND	0.29	ug/l	
12672-29-6	Aroclor 1248	ND	0.29	ug/l	
11097-69-1	Aroclor 1254	ND	0.29	ug/l	
11096-82-5	Aroclor 1260	ND	0.29	ug/l	
37324-23-5	Aroclor 1262	ND	0.29	ug/l	
11100-14-4	Aroclor 1268	ND	0.29	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	87%		30-150%
877-09-8	Tetrachloro-m-xylene	91%		30-150%
2051-24-3	Decachlorobiphenyl	79%		30-150%
2051-24-3	Decachlorobiphenyl	88%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1255898UF	Date Sampled: 03/27/12
Lab Sample ID: MC9090-10	Date Received: 03/27/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.7	4.0	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Barium	331	50	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Copper	< 25	25	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	03/29/12	03/30/12 EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³
Zinc	< 20	20	ug/l	1	03/29/12	03/30/12 EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14117

(2) Instrument QC Batch: MA14120

(3) Prep QC Batch: MP18786

(4) Prep QC Batch: MP18790

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1255899	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-11	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L61931.D	1	04/04/12	EK	n/a	n/a	MSL2090
Run #2	P60443.D	5	04/05/12	AMY	n/a	n/a	MSP1960

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	2.6	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	9.5	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	55.8	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	13.9	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	667 ^a	5.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.8	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255899	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-11	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	244	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	57.6	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	193	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	45.6	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%	114%	70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255899	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-11	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	94%	120%	70-130%
460-00-4	4-Bromofluorobenzene	101%	134% ^b	70-130%

(a) Result is from Run# 2

(b) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255899						
Lab Sample ID:	MC9090-11					Date Sampled:	03/27/12
Matrix:	AQ - Ground Water					Date Received:	03/27/12
Method:	CT-ETPH 7/06 SW846 3510C					Percent Solids:	n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BG34701.D	1	04/02/12	KN	03/31/12	OP28404	GBG1275
Run #2							

	Initial Volume	Final Volume
Run #1	870 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	0.419	0.092	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	88%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255899	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-11	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK11168.D	1	04/01/12	AP	03/28/12	OP28373	GBK459
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.28	ug/l	
11104-28-2	Aroclor 1221	ND	0.28	ug/l	
11141-16-5	Aroclor 1232	ND	0.28	ug/l	
53469-21-9	Aroclor 1242	ND	0.28	ug/l	
12672-29-6	Aroclor 1248	ND	0.28	ug/l	
11097-69-1	Aroclor 1254	ND	0.28	ug/l	
11096-82-5	Aroclor 1260	ND	0.28	ug/l	
37324-23-5	Aroclor 1262	ND	0.28	ug/l	
11100-14-4	Aroclor 1268	ND	0.28	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	82%		30-150%
877-09-8	Tetrachloro-m-xylene	89%		30-150%
2051-24-3	Decachlorobiphenyl	75%		30-150%
2051-24-3	Decachlorobiphenyl	83%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255899UF	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-12	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Barium	210	50	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Copper	< 25	25	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	03/29/12	03/30/12	EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Zinc	< 20	20	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14117

(2) Instrument QC Batch: MA14120

(3) Prep QC Batch: MP18786

(4) Prep QC Batch: MP18790

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1255900	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-13	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V6671.D	1	04/05/12	AMY	n/a	n/a	MSV290
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	6.3	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	6.9	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255900	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-13	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	2.4	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	6.9	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	5.3	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255900	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-13	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	84%		70-130%
460-00-4	4-Bromofluorobenzene	100%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255900	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-13	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	CT-ETPH 7/06 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BG34715.D	1	04/02/12	KN	03/31/12	OP28404	GBG1275
Run #2							

	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	1.39	0.087	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	95%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255900	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-13	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK11169.D	1	04/01/12	AP	03/28/12	OP28373	GBK459
Run #2							

	Initial Volume	Final Volume
Run #1	920 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.27	ug/l	
11104-28-2	Aroclor 1221	ND	0.27	ug/l	
11141-16-5	Aroclor 1232	ND	0.27	ug/l	
53469-21-9	Aroclor 1242	ND	0.27	ug/l	
12672-29-6	Aroclor 1248	ND	0.27	ug/l	
11097-69-1	Aroclor 1254	ND	0.27	ug/l	
11096-82-5	Aroclor 1260	ND	0.27	ug/l	
37324-23-5	Aroclor 1262	ND	0.27	ug/l	
11100-14-4	Aroclor 1268	ND	0.27	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	92%		30-150%
877-09-8	Tetrachloro-m-xylene	203% ^a		30-150%
2051-24-3	Decachlorobiphenyl	98%		30-150%
2051-24-3	Decachlorobiphenyl	108%		30-150%

(a) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255900UF	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-14	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method	
Arsenic	< 4.0	4.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Barium	162	50	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	265	4.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Chromium	11.0	10	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Copper	275	25	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	03/29/12	03/30/12	EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	2760	40	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Silver	37.3	5.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Zinc	34.5	20	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14117

(2) Instrument QC Batch: MA14120

(3) Prep QC Batch: MP18786

(4) Prep QC Batch: MP18790

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1255901	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-15	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L61933.D	1	04/04/12	EK	n/a	n/a	MSL2090
Run #2	P60444.D	5	04/05/12	AMY	n/a	n/a	MSP1960

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	0.81	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	28.2	2.0	ug/l	
67-66-3	Chloroform	2.1	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	9.5	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	153	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	64.7	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255901	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-15	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	62.3	1.0	ug/l	
109-99-9	Tetrahydrofuran	13.9	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	49.6	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	393 ^a	5.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	10.5	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%	101%	70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255901	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-15	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	92%	107%	70-130%
460-00-4	4-Bromofluorobenzene	100%	112%	70-130%

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255901	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-15	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	CT-ETPH 7/06 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BG34711.D	1	04/02/12	KN	03/31/12	OP28404	GBG1275
Run #2							

	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	0.234	0.087	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	92%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255901		
Lab Sample ID:	MC9090-15	Date Sampled:	03/27/12
Matrix:	AQ - Ground Water	Date Received:	03/27/12
Method:	SW846 8082 SW846 3510C	Percent Solids:	n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK11170.D	1	04/01/12	AP	03/28/12	OP28373	GBK459
Run #2							

	Initial Volume	Final Volume
Run #1	890 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.28	ug/l	
11104-28-2	Aroclor 1221	ND	0.28	ug/l	
11141-16-5	Aroclor 1232	ND	0.28	ug/l	
53469-21-9	Aroclor 1242	ND	0.28	ug/l	
12672-29-6	Aroclor 1248	ND	0.28	ug/l	
11097-69-1	Aroclor 1254	ND	0.28	ug/l	
11096-82-5	Aroclor 1260	ND	0.28	ug/l	
37324-23-5	Aroclor 1262	ND	0.28	ug/l	
11100-14-4	Aroclor 1268	ND	0.28	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	89%		30-150%
877-09-8	Tetrachloro-m-xylene	95%		30-150%
2051-24-3	Decachlorobiphenyl	97%		30-150%
2051-24-3	Decachlorobiphenyl	107%		30-150%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255901UF	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-16	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Arsenic	6.3	4.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Barium	350	50	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Copper	< 25	25	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	03/29/12	03/30/12	EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³
Zinc	21.7	20	ug/l	1	03/29/12	03/30/12	EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14117

(2) Instrument QC Batch: MA14120

(3) Prep QC Batch: MP18786

(4) Prep QC Batch: MP18790

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1255902	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-17	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V6660.D	1	04/05/12	AMY	n/a	n/a	MSV290
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255902	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-17	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1255902	Date Sampled:	03/27/12
Lab Sample ID:	MC9090-17	Date Received:	03/27/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	87%		70-130%
460-00-4	4-Bromofluorobenzene	97%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Certification Exceptions (CT)
- Chain of Custody
- RCP Form
- Sample Tracking Chronicle

Parameter Certification Exceptions

Job Number: MC9090
Account: LEA Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

The following parameters included in this report are exceptions to NELAC certification.
The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
Aroclor 1262	37324-23-5	SW846 8082	AQ	Certified by SOP MGC204/GC-ECD
Aroclor 1268	11100-14-4	SW846 8082	AQ	Certified by SOP MGC204/GC-ECD

4.1
4

Client / Reporting Information Company Name: <u>LEA</u> Street Address: <u>100 North West Drive</u> City: <u>Plainville CT 06062</u> State: <u>CT</u> Zip: <u>06062</u> Project Contact: <u>Joe Tracchi</u> E-mail: <u>Joe.Tracchi@lea.com</u> Phone #: <u>860-747-6591</u> Fax #: <u></u> Sample(s) Name(s): <u>Asph</u> Phone #: <u></u>		Project Information Project Name: <u>William Pawe PaveHt Grandchester</u> Street: <u></u> Billing Information (if different from Report to): Company Name: <u></u> Street Address: <u></u> City: <u></u> State: <u></u> Zip: <u></u> Project#: <u>8807230</u> Client PO#: <u></u> City: <u></u> State: <u></u> Zip: <u></u> Project Manager: <u>Joe Tracchi</u> Attention: <u></u> PO#: <u></u>		Requested Analysis (see TEST CODE sheet) FED-EX Tracking #: <u></u> Bottle Order Control #: <u></u> Accutest Quote #: <u></u> Accutest Job #: <u>MC 9090</u> Matrix Codes: <u></u> DW - Drinking Water GV - Ground Water W/W - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OL - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank	
Accutest Sample #: <u></u> Field ID / Point of Collection: <u></u> MECH/DI Val #: <u></u>	Collection: Date: <u>3-27-12</u> Time: <u>1510</u> Sampled: <u>GW</u> Matrix: <u>6</u> # of bottles: <u>2</u> Number of preserved bottles: <u></u> H2O2 <u></u> HNO3 <u></u> H2SO4 <u></u> HNO2 <u></u> H2O <u></u> H2O2 <u></u> HNO3 <u></u> H2SO4 <u></u> HNO2 <u></u> H2O <u></u>	Requested Analysis (see TEST CODE sheet): <u>Vol by 8160B</u> <u>CT-EPH</u> <u>PCBs by 9082</u> <u>Total PCBs by 9082</u> <u>Total PCBs by 9082</u>	LAB USE ONLY		
-13 1255900 -14 1255900wF -15 1255901 -16 1255901wF -17 1255902	3-27-12 1510 GW 6 2 3-27-12 1510 GW 1 1 3-27-12 1120 GW 6 2 3-27-12 1120 GW 1 1 3-27-12 0900 GW 1 1	X X X X X X X X X			
Data Deliverable Information Turnaround Time (Business days): <input checked="" type="checkbox"/> Std. 10 Business Days <input type="checkbox"/> Std. 5 Business Days (By Contract only) <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY Approved By (Accutest PM): / Date: <u></u> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> FULLT1 (Level 3/4) <input checked="" type="checkbox"/> CT RCP <input type="checkbox"/> MA MCP Commercial "A" = Results Only Commercial "B" = Results + QC Summary		Comments / Special Instructions <u></u> <u></u> <u></u> <u></u>			
Emergency & Rush T/A data available VIA Lablink					
Sample Custody must be documented below each time samples change possession, including courier delivery.					
Relinquished by: <u></u> Date Time: <u>3/27/12 1550</u> Received By: <u>B.C.</u>	Relinquished by: <u></u> Date Time: <u>3-27-12</u> Received By: <u>B.C.</u>	Relinquished by: <u></u> Date Time: <u>3-27-12</u> Received By: <u>B.C.</u>	Relinquished by: <u></u> Date Time: <u>3-27-12</u> Received By: <u>B.C.</u>		
Relinquished by: <u></u> Date Time: <u></u> Received By: <u></u>	Relinquished by: <u></u> Date Time: <u></u> Received By: <u></u>	Relinquished by: <u></u> Date Time: <u></u> Received By: <u></u>	Relinquished by: <u></u> Date Time: <u></u> Received By: <u></u>		
Relinquished by: <u></u> Date Time: <u></u> Received By: <u></u>	Relinquished by: <u></u> Date Time: <u></u> Received By: <u></u>	Relinquished by: <u></u> Date Time: <u></u> Received By: <u></u>	Relinquished by: <u></u> Date Time: <u></u> Received By: <u></u>		
Relinquished by: <u></u> Date Time: <u></u> Received By: <u></u>	Relinquished by: <u></u> Date Time: <u></u> Received By: <u></u>	Relinquished by: <u></u> Date Time: <u></u> Received By: <u></u>	Relinquished by: <u></u> Date Time: <u></u> Received By: <u></u>		

MC9090: Chain of Custody

Page 2 of 3

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC9090

Client: LEA

Immediate Client Services Action Required: No

Date / Time Received: 3/27/2012

Delivery Method:

Client Service Action Required at Login: No

Project: WILLOW POND

No. Coolers:

2

Airbill #'s:

Cooler Security

Y or N

Y or N

- | | | | | | |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Cooler Temperature

Y or N

- | | | |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Cooler temp verification: | Infrared gun | |
| 3. Cooler media: | Ice (bag) | |

Quality Control Preservation

Y or N

N/A

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|--------------------------|
| 1. Trip Blank present / cooler: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Trip Blank listed on COC: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Samples preserved properly: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. VOCs headspace free: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Sample Integrity - Documentation

Y or N

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Sample Integrity - Condition

Y or N

- | | | |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of sample: | Intact | |

Sample Integrity - Instructions

Y or N N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3. Sufficient volume recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. Compositing instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Laboratory Name: Accutest New England Client: Loureiro Eng. Associates

Project Location: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT Project Number: 88UT230

Sampling Date(s): 3/27/2012

Laboratory Sample ID(s): MC9090-1, MC9090-2, MC9090-3, MC9090-4, MC9090-5, MC9090-6, MC9090-7, MC9090-8, MC9090-9, MC9090-10, MC9090-11, MC9090-12, MC9090-13, MC9090-14, MC9090-15, MC9090-16, MC9090-17

Methods: CT-ETPH 7/06, SW846 6010C, SW846 7470A, 8082,8260B

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1A	Where all the method specified preservation and holding time requirements met?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1B	VPH and EPH methods only: Was the VPH or EPH method conducted without significant modifications (See section 11.3 of respective methods)	Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
3	Were samples received at an appropriate temperature (<6° C)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
5	a) Were reporting limits specified or referenced on the chain-of-custody?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	b) Were these reporting limits met?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence".

I, the undersigned, attest under pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized

Signature:

Position: Lab Director

Printed Name: Reza Tand

Accutest New England

Date: 4/10/2012

Internal Sample Tracking Chronicle

Loureiro Eng. Associates

Job No: MC9090

UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT
 Project No: 88UT230

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC9090-1 1255891	Collected: 27-MAR-12 13:45	By: DR	Received: 27-MAR-12	By:		
MC9090-1	CT-ETPH 7/06	31-MAR-12 01:16	KN	29-MAR-12 MT		BCTTPH
MC9090-1	SW846 8082	01-APR-12 14:13	AP	28-MAR-12 MT		P8082RCP
MC9090-1	SW846 8260B	04-APR-12 12:43	JP			V8260RCP
MC9090-2 1255891UF	Collected: 27-MAR-12 13:45	By: DR	Received: 27-MAR-12	By:		
MC9090-2	SW846 6010C	30-MAR-12 02:57	EAL	29-MAR-12 DA		AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC9090-2	SW846 7470A	30-MAR-12 11:16	EM	29-MAR-12 EM		HG
MC9090-3 1255895	Collected: 27-MAR-12 09:45	By: DR	Received: 27-MAR-12	By:		
MC9090-3	CT-ETPH 7/06	30-MAR-12 20:01	KN	29-MAR-12 MT		BCTTPH
MC9090-3	SW846 8082	01-APR-12 14:34	AP	28-MAR-12 MT		P8082RCP
MC9090-3	SW846 8260B	04-APR-12 13:11	JP			V8260RCP
MC9090-4 1255895UF	Collected: 27-MAR-12 09:45	By: DR	Received: 27-MAR-12	By:		
MC9090-4	SW846 6010C	30-MAR-12 03:02	EAL	29-MAR-12 DA		AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC9090-4	SW846 7470A	30-MAR-12 11:18	EM	29-MAR-12 EM		HG
MC9090-5 1255896	Collected: 27-MAR-12 11:30	By: DR	Received: 27-MAR-12	By:		
MC9090-5	CT-ETPH 7/06	30-MAR-12 20:36	KN	29-MAR-12 MT		BCTTPH
MC9090-5	SW846 8082	01-APR-12 15:15	AP	28-MAR-12 MT		P8082RCP
MC9090-5	SW846 8260B	04-APR-12 13:39	JP			V8260RCP
MC9090-6 1255896UF	Collected: 27-MAR-12 11:30	By: DR	Received: 27-MAR-12	By:		
MC9090-6	SW846 6010C	30-MAR-12 03:06	EAL	29-MAR-12 DA		AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN

Internal Sample Tracking Chronicle

Loureiro Eng. Associates

Job No: MC9090

UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT
Project No: 88UT230

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC9090-6	SW846 7470A	30-MAR-12 11:21	EM	29-MAR-12	EM	HG
MC9090-7 Collected: 27-MAR-12 09:35 By: DR Received: 27-MAR-12 By: 1255897						
MC9090-7	SW846 8082	01-APR-12 15:35	AP	28-MAR-12	MT	P8082RCP
MC9090-7	CT-ETPH 7/06	02-APR-12 00:40	KN	31-MAR-12	PA	BCTTPH
MC9090-7	SW846 8260B	04-APR-12 14:07	JP			V8260RCP
MC9090-8 Collected: 27-MAR-12 09:35 By: DR Received: 27-MAR-12 By: 1255897UF						
MC9090-8	SW846 6010C	30-MAR-12 03:37	EAL	29-MAR-12	DA	AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC9090-8	SW846 7470A	30-MAR-12 11:23	EM	29-MAR-12	EM	HG
MC9090-9 Collected: 27-MAR-12 11:20 By: DR Received: 27-MAR-12 By: 1255898						
MC9090-9	SW846 8082	01-APR-12 15:56	AP	28-MAR-12	MT	P8082RCP
MC9090-9	CT-ETPH 7/06	02-APR-12 02:26	KN	31-MAR-12	PA	BCTTPH
MC9090-9	SW846 8260B	04-APR-12 18:27	EK			V8260RCP
MC9090-9	SW846 8260B	05-APR-12 14:27	AMY			V8260RCP
MC9090-10 Collected: 27-MAR-12 11:20 By: DR Received: 27-MAR-12 By: 1255898UF						
MC9090-10	SW846 6010C	30-MAR-12 03:42	EAL	29-MAR-12	DA	AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC9090-10	SW846 7470A	30-MAR-12 11:25	EM	29-MAR-12	EM	HG
MC9090-11 Collected: 27-MAR-12 13:50 By: DR Received: 27-MAR-12 By: 1255899						
MC9090-11	SW846 8082	01-APR-12 16:16	AP	28-MAR-12	MT	P8082RCP
MC9090-11	CT-ETPH 7/06	02-APR-12 00:04	KN	31-MAR-12	PA	BCTTPH
MC9090-11	SW846 8260B	04-APR-12 18:55	EK			V8260RCP
MC9090-11	SW846 8260B	05-APR-12 13:29	AMY			V8260RCP

Internal Sample Tracking Chronicle

Loureiro Eng. Associates

Job No: MC9090

UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT
 Project No: 88UT230

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC9090-12 Collected: 27-MAR-12 13:50 By: DR Received: 27-MAR-12 By: 1255899UF						
MC9090-12 SW846 6010C		30-MAR-12 02:44	EAL	29-MAR-12 DA		AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC9090-12 SW846 7470A		30-MAR-12 11:28	EM	29-MAR-12 EM		HG
MC9090-13 Collected: 27-MAR-12 15:10 By: DR Received: 27-MAR-12 By: 1255900						
MC9090-13 SW846 8082		01-APR-12 16:37	AP	28-MAR-12 MT		P8082RCP
MC9090-13 CT-ETPH 7/06		02-APR-12 04:12	KN	31-MAR-12 PA		BCTTPH
MC9090-13 SW846 8260B		05-APR-12 17:33	AMY			V8260RCP
MC9090-14 Collected: 27-MAR-12 15:10 By: DR Received: 27-MAR-12 By: 1255900UF						
MC9090-14 SW846 6010C		30-MAR-12 03:46	EAL	29-MAR-12 DA		AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC9090-14 SW846 7470A		30-MAR-12 11:30	EM	29-MAR-12 EM		HG
MC9090-15 Collected: 27-MAR-12 11:20 By: DR Received: 27-MAR-12 By: 1255901						
MC9090-15 SW846 8082		01-APR-12 16:57	AP	28-MAR-12 MT		P8082RCP
MC9090-15 CT-ETPH 7/06		02-APR-12 03:01	KN	31-MAR-12 PA		BCTTPH
MC9090-15 SW846 8260B		04-APR-12 19:54	EK			V8260RCP
MC9090-15 SW846 8260B		05-APR-12 13:58	AMY			V8260RCP
MC9090-16 Collected: 27-MAR-12 11:20 By: DR Received: 27-MAR-12 By: 1255901UF						
MC9090-16 SW846 6010C		30-MAR-12 03:51	EAL	29-MAR-12 DA		AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC9090-16 SW846 7470A		30-MAR-12 11:38	EM	29-MAR-12 EM		HG
MC9090-17 Collected: 27-MAR-12 09:00 By: DR Received: 27-MAR-12 By: 1255902						

Internal Sample Tracking Chronicle

Loureiro Eng. Associates

Job No: MC9090

UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT
Project No: 88UT230

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC9090-17 SW846 8260B		05-APR-12 12:10	AMY			V8260RCP

GC/MS Volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

Method Blank Summary

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Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2321-MB	N62033.D	1	04/04/12	JP	n/a	n/a	MSN2321

The QC reported here applies to the following samples:

Method: SW846 8260B

MC9090-1, MC9090-3, MC9090-5, MC9090-7

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	

Method Blank Summary

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Job Number: MC9090**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2321-MB	N62033.D	1	04/04/12	JP	n/a	n/a	MSN2321

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC9090-1, MC9090-3, MC9090-5, MC9090-7

CAS No.	Compound	Result	RL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

Method Blank Summary

Job Number: MC9090
Account: LEA Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2321-MB	N62033.D	1	04/04/12	JP	n/a	n/a	MSN2321

The QC reported here applies to the following samples: Method: SW846 8260B

MC9090-1, MC9090-3, MC9090-5, MC9090-7

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	75% 70-130%
2037-26-5	Toluene-D8	85% 70-130%
460-00-4	4-Bromofluorobenzene	87% 70-130%

Method Blank Summary

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Job Number: MC9090**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL2090-MB	L61929.D	1	04/04/12	EK	n/a	n/a	MSL2090

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC9090-9, MC9090-11, MC9090-15

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	

Method Blank Summary

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Job Number: MC9090**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL2090-MB	L61929.D	1	04/04/12	EK	n/a	n/a	MSL2090

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC9090-9, MC9090-11, MC9090-15

CAS No.	Compound	Result	RL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

Method Blank Summary

Job Number: MC9090
Account: LEA Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL2090-MB	L61929.D	1	04/04/12	EK	n/a	n/a	MSL2090

The QC reported here applies to the following samples: Method: SW846 8260B

MC9090-9, MC9090-11, MC9090-15

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	92% 70-130%
2037-26-5	Toluene-D8	95% 70-130%
460-00-4	4-Bromofluorobenzene	104% 70-130%

Method Blank Summary

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Job Number: MC9090**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV290-MB	V6658.D	1	04/05/12	AMY	n/a	n/a	MSV290

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC9090-13, MC9090-17

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	

Method Blank Summary

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Job Number: MC9090**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV290-MB	V6658.D	1	04/05/12	AMY	n/a	n/a	MSV290

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC9090-13, MC9090-17

CAS No.	Compound	Result	RL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

Method Blank Summary

Job Number: MC9090
Account: LEA Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV290-MB	V6658.D	1	04/05/12	AMY	n/a	n/a	MSV290

The QC reported here applies to the following samples: Method: SW846 8260B
MC9090-13, MC9090-17

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	87% 70-130%
2037-26-5	Toluene-D8	84% 70-130%
460-00-4	4-Bromofluorobenzene	96% 70-130%

Method Blank Summary

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Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP1960-MB	P60440.D	1	04/05/12	AMY	n/a	n/a	MSP1960

The QC reported here applies to the following samples:

Method: SW846 8260B

MC9090-9, MC9090-11, MC9090-15

CAS No.	Compound	Result	RL	Units	Q
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	98% 70-130%
2037-26-5	Toluene-D8	106% 70-130%
460-00-4	4-Bromofluorobenzene	121% 70-130%

Blank Spike Summary

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Job Number: MC9090**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2321-B5	N62031.D	1	04/04/12	JP	n/a	n/a	MSN2321

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC9090-1, MC9090-3, MC9090-5, MC9090-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	72.2	144* a	70-130
107-13-1	Acrylonitrile	50	225	450* b	70-130
71-43-2	Benzene	50	48.2	96	70-130
108-86-1	Bromobenzene	50	49.7	99	70-130
75-27-4	Bromodichloromethane	50	49.4	99	70-130
75-25-2	Bromoform	50	47.8	96	70-130
74-83-9	Bromomethane	50	43.8	88	70-130
78-93-3	2-Butanone (MEK)	50	71.8	144* a	70-130
104-51-8	n-Butylbenzene	50	50.2	100	70-130
135-98-8	sec-Butylbenzene	50	52.3	105	70-130
98-06-6	tert-Butylbenzene	50	49.5	99	70-130
75-15-0	Carbon disulfide	50	50.0	100	70-130
56-23-5	Carbon tetrachloride	50	40.0	80	70-130
108-90-7	Chlorobenzene	50	51.8	104	70-130
75-00-3	Chloroethane	50	45.1	90	70-130
67-66-3	Chloroform	50	45.3	91	70-130
74-87-3	Chloromethane	50	41.6	83	70-130
95-49-8	o-Chlorotoluene	50	47.6	95	70-130
106-43-4	p-Chlorotoluene	50	50.6	101	70-130
96-12-8	1,2-Dibromo-3-chloropropane	50	45.8	92	70-130
124-48-1	Dibromochloromethane	50	48.9	98	70-130
106-93-4	1,2-Dibromoethane	50	50.9	102	70-130
95-50-1	1,2-Dichlorobenzene	50	50.5	101	70-130
541-73-1	1,3-Dichlorobenzene	50	49.7	99	70-130
106-46-7	1,4-Dichlorobenzene	50	50.0	100	70-130
75-71-8	Dichlorodifluoromethane	50	51.1	102	70-130
75-34-3	1,1-Dichloroethane	50	44.5	89	70-130
107-06-2	1,2-Dichloroethane	50	44.3	89	70-130
75-35-4	1,1-Dichloroethene	50	45.7	91	70-130
156-59-2	cis-1,2-Dichloroethene	50	46.4	93	70-130
156-60-5	trans-1,2-Dichloroethene	50	47.7	95	70-130
78-87-5	1,2-Dichloropropane	50	45.9	92	70-130
142-28-9	1,3-Dichloropropane	50	47.0	94	70-130
594-20-7	2,2-Dichloropropane	50	29.1	58* a	70-130
563-58-6	1,1-Dichloropropene	50	49.5	99	70-130
10061-01-5	cis-1,3-Dichloropropene	50	41.8	84	70-130

Blank Spike Summary

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Job Number: MC9090**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2321-BS	N62031.D	1	04/04/12	JP	n/a	n/a	MSN2321

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC9090-1, MC9090-3, MC9090-5, MC9090-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	44.3	89	70-130
100-41-4	Ethylbenzene	50	52.7	105	70-130
76-13-1	Freon 113	50	46.8	94	70-130
87-68-3	Hexachlorobutadiene	50	49.2	98	70-130
591-78-6	2-Hexanone	50	66.8	134* a	70-130
98-82-8	Isopropylbenzene	50	59.6	119	70-130
99-87-6	p-Isopropyltoluene	50	52.7	105	70-130
1634-04-4	Methyl Tert Butyl Ether	50	38.8	78	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	46.7	93	70-130
74-95-3	Methylene bromide	50	49.1	98	70-130
75-09-2	Methylene chloride	50	44.6	89	70-130
91-20-3	Naphthalene	50	53.7	107	70-130
103-65-1	n-Propylbenzene	50	50.3	101	70-130
100-42-5	Styrene	50	52.5	105	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	53.2	106	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	45.5	91	70-130
127-18-4	Tetrachloroethene	50	54.7	109	70-130
109-99-9	Tetrahydrofuran	50	43.0	86	70-130
108-88-3	Toluene	50	51.8	104	70-130
110-57-6	Trans-1,4-Dichloro-2-Butene	50	41.4	83	70-130
87-61-6	1,2,3-Trichlorobenzene	50	53.3	107	70-130
120-82-1	1,2,4-Trichlorobenzene	50	54.0	108	70-130
71-55-6	1,1,1-Trichloroethane	50	42.7	85	70-130
79-00-5	1,1,2-Trichloroethane	50	47.3	95	70-130
79-01-6	Trichloroethene	50	48.7	97	70-130
75-69-4	Trichlorofluoromethane	50	45.9	92	70-130
96-18-4	1,2,3-Trichloropropane	50	44.9	90	70-130
95-63-6	1,2,4-Trimethylbenzene	50	51.2	102	70-130
108-67-8	1,3,5-Trimethylbenzene	50	51.0	102	70-130
75-01-4	Vinyl chloride	50	39.1	78	70-130
	m,p-Xylene	100	112	112	70-130
95-47-6	o-Xylene	50	53.2	106	70-130

Blank Spike Summary

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Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2321-BS	N62031.D	1	04/04/12	JP	n/a	n/a	MSN2321

The QC reported here applies to the following samples:

Method: SW846 8260B

MC9090-1, MC9090-3, MC9090-5, MC9090-7

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	75%	70-130%
2037-26-5	Toluene-D8	85%	70-130%
460-00-4	4-Bromofluorobenzene	80%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

(b) Outside control limits. Associated samples are non-detect for this compound.

Blank Spike Summary

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Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP1960-BS	P60438.D	1	04/05/12	AMY	n/a	n/a	MSP1960

The QC reported here applies to the following samples:

Method: SW846 8260B

MC9090-9, MC9090-11, MC9090-15

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
156-59-2	cis-1,2-Dichloroethene	50	53.5	107	70-130
79-01-6	Trichloroethene	50	53.6	107	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	113%	70-130%
2037-26-5	Toluene-D8	117%	70-130%
460-00-4	4-Bromofluorobenzene	126%	70-130%

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL2090-BS	L61926.D	1	04/04/12	EK	n/a	n/a	MSL2090
MSL2090-BSD	L61927.D	1	04/04/12	EK	n/a	n/a	MSL2090

The QC reported here applies to the following samples:

Method: SW846 8260B

MC9090-9, MC9090-11, MC9090-15

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	88.9	178* a	86.1	172* a	3	70-130/25
107-13-1	Acrylonitrile	50	52.7	105	52.0	104	1	70-130/25
71-43-2	Benzene	50	52.0	104	49.7	99	5	70-130/25
108-86-1	Bromobenzene	50	53.0	106	50.1	100	6	70-130/25
75-27-4	Bromodichloromethane	50	54.3	109	52.4	105	4	70-130/25
75-25-2	Bromoform	50	62.1	124	62.6	125	1	70-130/25
74-83-9	Bromomethane	50	52.5	105	55.5	111	6	70-130/25
78-93-3	2-Butanone (MEK)	50	55.0	110	54.5	109	1	70-130/25
104-51-8	n-Butylbenzene	50	59.2	118	55.6	111	6	70-130/25
135-98-8	sec-Butylbenzene	50	56.2	112	53.0	106	6	70-130/25
98-06-6	tert-Butylbenzene	50	55.8	112	52.3	105	6	70-130/25
75-15-0	Carbon disulfide	50	58.2	116	55.6	111	5	70-130/25
56-23-5	Carbon tetrachloride	50	54.2	108	52.0	104	4	70-130/25
108-90-7	Chlorobenzene	50	55.0	110	53.6	107	3	70-130/25
75-00-3	Chloroethane	50	52.7	105	48.1	96	9	70-130/25
67-66-3	Chloroform	50	54.2	108	52.0	104	4	70-130/25
74-87-3	Chloromethane	50	65.2	130	58.2	116	11	70-130/25
95-49-8	o-Chlorotoluene	50	53.6	107	50.2	100	7	70-130/25
106-43-4	p-Chlorotoluene	50	56.4	113	52.6	105	7	70-130/25
96-12-8	1,2-Dibromo-3-chloropropane	50	60.1	120	58.6	117	3	70-130/25
124-48-1	Dibromochloromethane	50	63.3	127	62.4	125	1	70-130/25
106-93-4	1,2-Dibromoethane	50	56.9	114	56.3	113	1	70-130/25
95-50-1	1,2-Dichlorobenzene	50	56.8	114	54.3	109	5	70-130/25
541-73-1	1,3-Dichlorobenzene	50	56.5	113	53.8	108	5	70-130/25
106-46-7	1,4-Dichlorobenzene	50	55.4	111	51.4	103	7	70-130/25
75-71-8	Dichlorodifluoromethane	50	70.5	141* b	65.8	132* b	7	70-130/25
75-34-3	1,1-Dichloroethane	50	54.1	108	51.9	104	4	70-130/25
107-06-2	1,2-Dichloroethane	50	52.7	105	50.6	101	4	70-130/25
75-35-4	1,1-Dichloroethene	50	56.0	112	53.7	107	4	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	54.4	109	52.6	105	3	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	54.4	109	51.1	102	6	70-130/25
78-87-5	1,2-Dichloropropane	50	49.8	100	48.4	97	3	70-130/25
142-28-9	1,3-Dichloropropane	50	52.9	106	51.2	102	3	70-130/25
594-20-7	2,2-Dichloropropane	50	50.9	102	47.5	95	7	70-130/25
563-58-6	1,1-Dichloropropene	50	54.2	108	52.0	104	4	70-130/25
10061-01-5	cis-1,3-Dichloropropene	50	49.5	99	47.4	95	4	70-130/25

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC9090**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL2090-BS	L61926.D	1	04/04/12	EK	n/a	n/a	MSL2090
MSL2090-BSD	L61927.D	1	04/04/12	EK	n/a	n/a	MSL2090

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC9090-9, MC9090-11, MC9090-15

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	50	51.1	102	49.5	99	3	70-130/25
100-41-4	Ethylbenzene	50	55.8	112	53.3	107	5	70-130/25
76-13-1	Freon 113	50	58.4	117	55.0	110	6	70-130/25
87-68-3	Hexachlorobutadiene	50	57.4	115	52.7	105	9	70-130/25
591-78-6	2-Hexanone	50	56.5	113	55.4	111	2	70-130/25
98-82-8	Isopropylbenzene	50	64.0	128	61.0	122	5	70-130/25
99-87-6	p-Isopropyltoluene	50	58.6	117	54.7	109	7	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	53.8	108	52.2	104	3	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	53.2	106	51.1	102	4	70-130/25
74-95-3	Methylene bromide	50	56.7	113	54.9	110	3	70-130/25
75-09-2	Methylene chloride	50	51.1	102	48.8	98	5	70-130/25
91-20-3	Naphthalene	50	57.1	114	54.8	110	4	70-130/25
103-65-1	n-Propylbenzene	50	55.5	111	51.9	104	7	70-130/25
100-42-5	Styrene	50	57.6	115	56.4	113	2	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	57.7	115	56.6	113	2	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	54.6	109	51.2	102	6	70-130/25
127-18-4	Tetrachloroethene	50	58.3	117	56.6	113	3	70-130/25
109-99-9	Tetrahydrofuran	50	52.3	105	51.9	104	1	70-130/25
108-88-3	Toluene	50	56.3	113	54.7	109	3	70-130/25
110-57-6	Trans-1,4-Dichloro-2-Butene	50	56.4	113	54.7	109	3	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	54.2	108	52.3	105	4	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	55.0	110	52.6	105	4	70-130/25
71-55-6	1,1,1-Trichloroethane	50	54.5	109	52.0	104	5	70-130/25
79-00-5	1,1,2-Trichloroethane	50	54.6	109	53.0	106	3	70-130/25
79-01-6	Trichloroethene	50	56.1	112	53.5	107	5	70-130/25
75-69-4	Trichlorofluoromethane	50	56.1	112	53.0	106	6	70-130/25
96-18-4	1,2,3-Trichloropropane	50	56.4	113	54.6	109	3	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	55.1	110	52.4	105	5	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	54.3	109	50.9	102	6	70-130/25
75-01-4	Vinyl chloride	50	58.9	118	55.8	112	5	70-130/25
	m,p-Xylene	100	114	114	111	111	3	70-130/25
95-47-6	o-Xylene	50	59.1	118	56.5	113	4	70-130/25

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL2090-BS	L61926.D	1	04/04/12	EK	n/a	n/a	MSL2090
MSL2090-BSD	L61927.D	1	04/04/12	EK	n/a	n/a	MSL2090

The QC reported here applies to the following samples:

Method: SW846 8260B

MC9090-9, MC9090-11, MC9090-15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	92%	91%	70-130%
2037-26-5	Toluene-D8	96%	97%	70-130%
460-00-4	4-Bromofluorobenzene	96%	96%	70-130%

- (a) Outside control limits. Associated samples are non-detect for this compound.
(b) Outside control limits. Blank Spike meets program technical requirements.

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC9090**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV290-BS	V6655.D	1	04/05/12	AMY	n/a	n/a	MSV290
MSV290-BSD	V6656.D	1	04/05/12	AMY	n/a	n/a	MSV290

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC9090-13, MC9090-17

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	66.0	132* a	56.7	113	15	70-130/25
107-13-1	Acrylonitrile	50	283	566* b	262	524* b	8	70-130/25
71-43-2	Benzene	50	46.3	93	50.7	101	9	70-130/25
108-86-1	Bromobenzene	50	48.7	97	48.9	98	0	70-130/25
75-27-4	Bromodichloromethane	50	54.5	109	53.8	108	1	70-130/25
75-25-2	Bromoform	50	44.0	88	44.7	89	2	70-130/25
74-83-9	Bromomethane	50	49.6	99	50.9	102	3	70-130/25
78-93-3	2-Butanone (MEK)	50	67.0	134* a	62.7	125	7	70-130/25
104-51-8	n-Butylbenzene	50	52.9	106	52.8	106	0	70-130/25
135-98-8	sec-Butylbenzene	50	51.3	103	55.7	111	8	70-130/25
98-06-6	tert-Butylbenzene	50	50.3	101	54.4	109	8	70-130/25
75-15-0	Carbon disulfide	50	48.8	98	50.2	100	3	70-130/25
56-23-5	Carbon tetrachloride	50	46.8	94	50.2	100	7	70-130/25
108-90-7	Chlorobenzene	50	48.7	97	49.2	98	1	70-130/25
75-00-3	Chloroethane	50	44.5	89	46.5	93	4	70-130/25
67-66-3	Chloroform	50	49.6	99	50.8	102	2	70-130/25
74-87-3	Chloromethane	50	52.8	106	56.9	114	7	70-130/25
95-49-8	o-Chlorotoluene	50	48.0	96	48.2	96	0	70-130/25
106-43-4	p-Chlorotoluene	50	51.0	102	49.6	99	3	70-130/25
96-12-8	1,2-Dibromo-3-chloropropane	50	47.0	94	49.4	99	5	70-130/25
124-48-1	Dibromochloromethane	50	46.4	93	47.1	94	1	70-130/25
106-93-4	1,2-Dibromoethane	50	50.7	101	53.0	106	4	70-130/25
95-50-1	1,2-Dichlorobenzene	50	48.9	98	48.5	97	1	70-130/25
541-73-1	1,3-Dichlorobenzene	50	49.5	99	50.4	101	2	70-130/25
106-46-7	1,4-Dichlorobenzene	50	48.0	96	50.1	100	4	70-130/25
75-71-8	Dichlorodifluoromethane	50	64.3	129	67.2	134* a	4	70-130/25
75-34-3	1,1-Dichloroethane	50	48.6	97	49.6	99	2	70-130/25
107-06-2	1,2-Dichloroethane	50	45.9	92	49.1	98	7	70-130/25
75-35-4	1,1-Dichloroethene	50	51.1	102	52.7	105	3	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	47.2	94	48.6	97	3	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	47.6	95	50.7	101	6	70-130/25
78-87-5	1,2-Dichloropropane	50	48.3	97	52.9	106	9	70-130/25
142-28-9	1,3-Dichloropropane	50	48.7	97	49.7	99	2	70-130/25
594-20-7	2,2-Dichloropropane	50	55.2	110	55.9	112	1	70-130/25
563-58-6	1,1-Dichloropropene	50	50.5	101	56.9	114	12	70-130/25
10061-01-5	cis-1,3-Dichloropropene	50	44.8	90	47.0	94	5	70-130/25

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC9090**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV290-BS	V6655.D	1	04/05/12	AMY	n/a	n/a	MSV290
MSV290-BSD	V6656.D	1	04/05/12	AMY	n/a	n/a	MSV290

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC9090-13, MC9090-17

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	50	48.3	97	50.6	101	5	70-130/25
100-41-4	Ethylbenzene	50	50.0	100	51.0	102	2	70-130/25
76-13-1	Freon 113	50	48.2	96	48.2	96	0	70-130/25
87-68-3	Hexachlorobutadiene	50	49.3	99	48.2	96	2	70-130/25
591-78-6	2-Hexanone	50	59.0	118	56.3	113	5	70-130/25
98-82-8	Isopropylbenzene	50	64.2	128	59.7	119	7	70-130/25
99-87-6	p-Isopropyltoluene	50	52.4	105	56.6	113	8	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	47.1	94	50.6	101	7	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	48.9	98	51.6	103	5	70-130/25
74-95-3	Methylene bromide	50	48.8	98	51.5	103	5	70-130/25
75-09-2	Methylene chloride	50	45.6	91	47.7	95	5	70-130/25
91-20-3	Naphthalene	50	54.8	110	54.0	108	1	70-130/25
103-65-1	n-Propylbenzene	50	50.8	102	51.5	103	1	70-130/25
100-42-5	Styrene	50	51.9	104	53.6	107	3	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	51.4	103	52.7	105	2	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	49.3	99	50.6	101	3	70-130/25
127-18-4	Tetrachloroethene	50	52.8	106	53.7	107	2	70-130/25
109-99-9	Tetrahydrofuran	50	47.5	95	56.5	113	17	70-130/25
108-88-3	Toluene	50	50.4	101	50.4	101	0	70-130/25
110-57-6	Trans-1,4-Dichloro-2-Butene	50	52.7	105	51.3	103	3	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	51.0	102	49.5	99	3	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	49.0	98	48.5	97	1	70-130/25
71-55-6	1,1,1-Trichloroethane	50	56.6	113	56.1	112	1	70-130/25
79-00-5	1,1,2-Trichloroethane	50	44.1	88	47.7	95	8	70-130/25
79-01-6	Trichloroethene	50	46.4	93	51.9	104	11	70-130/25
75-69-4	Trichlorofluoromethane	50	48.8	98	50.7	101	4	70-130/25
96-18-4	1,2,3-Trichloropropane	50	48.9	98	53.8	108	10	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	49.8	100	49.4	99	1	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	50.9	102	52.6	105	3	70-130/25
75-01-4	Vinyl chloride	50	51.9	104	53.8	108	4	70-130/25
	m,p-Xylene	100	101	101	102	102	1	70-130/25
95-47-6	o-Xylene	50	50.9	102	52.6	105	3	70-130/25

Blank Spike/Blank Spike Duplicate Summary

Page 3 of 3

Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV290-BS	V6655.D	1	04/05/12	AMY	n/a	n/a	MSV290
MSV290-BSD	V6656.D	1	04/05/12	AMY	n/a	n/a	MSV290

The QC reported here applies to the following samples:

Method: SW846 8260B

MC9090-13, MC9090-17

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	94%	91%	70-130%
2037-26-5	Toluene-D8	94%	92%	70-130%
460-00-4	4-Bromofluorobenzene	93%	91%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

(b) Outside control limits. Associated samples are non-detect for this compound.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 3

Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC9090-7MS	N62050.D	5	04/04/12	JP	n/a	n/a	MSN2321
MC9090-7MSD	N62051.D	5	04/04/12	JP	n/a	n/a	MSN2321
MC9090-7	N62049.D	1	04/04/12	JP	n/a	n/a	MSN2321

The QC reported here applies to the following samples:

Method: SW846 8260B

MC9090-1, MC9090-3, MC9090-5, MC9090-7

CAS No.	Compound	MC9090-7 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND	250	182	73	201	80	10	70-130/30
107-13-1	Acrylonitrile	ND	250	1280	512* a	1210	484* a	6	70-130/30
71-43-2	Benzene	3.0	250	254	100	250	99	2	70-130/30
108-86-1	Bromobenzene	ND	250	247	99	251	100	2	70-130/30
75-27-4	Bromodichloromethane	ND	250	262	105	253	101	3	70-130/30
75-25-2	Bromoform	ND	250	248	99	246	98	1	70-130/30
74-83-9	Bromomethane	ND	250	234	94	235	94	0	70-130/30
78-93-3	2-Butanone (MEK)	ND	250	262	105	259	104	1	70-130/30
104-51-8	n-Butylbenzene	ND	250	264	106	264	106	0	70-130/30
135-98-8	sec-Butylbenzene	ND	250	266	106	271	108	2	70-130/30
98-06-6	tert-Butylbenzene	ND	250	252	101	256	102	2	70-130/30
75-15-0	Carbon disulfide	ND	250	273	109	266	106	3	70-130/30
56-23-5	Carbon tetrachloride	ND	250	211	84	209	84	1	70-130/30
108-90-7	Chlorobenzene	ND	250	269	108	260	104	3	70-130/30
75-00-3	Chloroethane	ND	250	241	96	238	95	1	70-130/30
67-66-3	Chloroform	14.6	250	256	97	254	96	1	70-130/30
74-87-3	Chloromethane	ND	250	208	83	217	87	4	70-130/30
95-49-8	o-Chlorotoluene	ND	250	245	98	246	98	0	70-130/30
106-43-4	p-Chlorotoluene	ND	250	260	104	260	104	0	70-130/30
96-12-8	1,2-Dibromo-3-chloropropane	ND	250	251	100	268	107	7	70-130/30
124-48-1	Dibromochloromethane	ND	250	254	102	246	98	3	70-130/30
106-93-4	1,2-Dibromoethane	ND	250	267	107	263	105	2	70-130/30
95-50-1	1,2-Dichlorobenzene	ND	250	252	101	255	102	1	70-130/30
541-73-1	1,3-Dichlorobenzene	ND	250	251	100	254	102	1	70-130/30
106-46-7	1,4-Dichlorobenzene	ND	250	249	100	259	104	4	70-130/30
75-71-8	Dichlorodifluoromethane	ND	250	284	114	271	108	5	70-130/30
75-34-3	1,1-Dichloroethane	5.7	250	246	96	240	94	2	70-130/30
107-06-2	1,2-Dichloroethane	ND	250	239	96	232	93	3	70-130/30
75-35-4	1,1-Dichloroethene	3.5	250	247	97	242	95	2	70-130/30
156-59-2	cis-1,2-Dichloroethene	55.9	250	305	100	299	97	2	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND	250	253	101	245	98	3	70-130/30
78-87-5	1,2-Dichloropropane	ND	250	242	97	237	95	2	70-130/30
142-28-9	1,3-Dichloropropane	ND	250	251	100	241	96	4	70-130/30
594-20-7	2,2-Dichloropropane	ND	250	191	76	189	76	1	70-130/30
563-58-6	1,1-Dichloropropene	ND	250	266	106	255	102	4	70-130/30
10061-01-5	cis-1,3-Dichloropropene	ND	250	225	90	220	88	2	70-130/30

Matrix Spike/Matrix Spike Duplicate Summary

Page 2 of 3

Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC9090-7MS	N62050.D	5	04/04/12	JP	n/a	n/a	MSN2321
MC9090-7MSD	N62051.D	5	04/04/12	JP	n/a	n/a	MSN2321
MC9090-7	N62049.D	1	04/04/12	JP	n/a	n/a	MSN2321

The QC reported here applies to the following samples:

Method: SW846 8260B

MC9090-1, MC9090-3, MC9090-5, MC9090-7

CAS No.	Compound	MC9090-7 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND	250	233	93	235	94	1	70-130/30
100-41-4	Ethylbenzene	ND	250	273	109	262	105	4	70-130/30
76-13-1	Freon 113	ND	250	263	105	251	100	5	70-130/30
87-68-3	Hexachlorobutadiene	ND	250	249	100	262	105	5	70-130/30
591-78-6	2-Hexanone	ND	250	257	103	254	102	1	70-130/30
98-82-8	Isopropylbenzene	ND	250	306	122	307	123	0	70-130/30
99-87-6	p-Isopropyltoluene	ND	250	273	109	274	110	0	70-130/30
1634-04-4	Methyl Tert Butyl Ether	3.5	250	217	85	222	87	2	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	258	103	255	102	1	70-130/30
74-95-3	Methylene bromide	ND	250	258	103	254	102	2	70-130/30
75-09-2	Methylene chloride	ND	250	240	96	237	95	1	70-130/30
91-20-3	Naphthalene	ND	250	259	104	282	113	9	70-130/30
103-65-1	n-Propylbenzene	ND	250	261	104	261	104	0	70-130/30
100-42-5	Styrene	ND	250	264	106	256	102	3	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	272	109	266	106	2	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND	250	256	102	261	104	2	70-130/30
127-18-4	Tetrachloroethene	185	250	443	103	425	96	4	70-130/30
109-99-9	Tetrahydrofuran	ND	250	259	104	243	97	6	70-130/30
108-88-3	Toluene	ND	250	272	109	265	106	3	70-130/30
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	250	228	91	228	91	0	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND	250	258	103	274	110	6	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND	250	260	104	273	109	5	70-130/30
71-55-6	1,1,1-Trichloroethane	ND	250	236	94	232	93	2	70-130/30
79-00-5	1,1,2-Trichloroethane	ND	250	250	100	246	98	2	70-130/30
79-01-6	Trichloroethene	257	250	482	90	470	85	3	70-130/30
75-69-4	Trichlorofluoromethane	ND	250	253	101	243	97	4	70-130/30
96-18-4	1,2,3-Trichloropropane	ND	250	244	98	251	100	3	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND	250	263	105	262	105	0	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND	250	257	103	260	104	1	70-130/30
75-01-4	Vinyl chloride	6.0	250	231	90	232	90	0	70-130/30
	m,p-Xylene	ND	500	586	117	564	113	4	70-130/30
95-47-6	o-Xylene	ND	250	274	110	261	104	5	70-130/30

Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC9090-7MS	N62050.D	5	04/04/12	JP	n/a	n/a	MSN2321
MC9090-7MSD	N62051.D	5	04/04/12	JP	n/a	n/a	MSN2321
MC9090-7	N62049.D	1	04/04/12	JP	n/a	n/a	MSN2321

The QC reported here applies to the following samples:

Method: SW846 8260B

MC9090-1, MC9090-3, MC9090-5, MC9090-7

CAS No.	Surrogate Recoveries	MS	MSD	MC9090-7	Limits
1868-53-7	Dibromofluoromethane	79%	78%	77%	70-130%
2037-26-5	Toluene-D8	85%	86%	84%	70-130%
460-00-4	4-Bromofluorobenzene	81%	82%	88%	70-130%

(a) Outside control limits. Associated samples are non-detect for this compound.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Check Std: MSL2090-CC2084

Injection Date: 04/04/12

Lab File ID: L61925.D

Injection Time: 15:59

Instrument ID: GCMSL

Method: SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	79599	8.18	134550	9.01	79522	12.24	62615	14.80	46951	5.88
Upper Limit ^a	159198	8.68	269100	9.51	159044	12.74	125230	15.30	93902	6.38
Lower Limit ^b	39800	7.68	67275	8.51	39761	11.74	31308	14.30	23476	5.38

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSL2090-BS	87125	8.17	146164	9.00	88852	12.24	70321	14.80	49916	5.88
MSL2090-BSD	88859	8.17	148136	9.00	89072	12.24	71221	14.80	53405	5.88
MSL2090-MB	84684	8.18	142945	9.01	80899	12.25	56849	14.80	47633	5.90
MC9090-9	85111	8.18	144898	9.01	84491	12.25	58941	14.81	48449	5.90
MC9090-11	82822	8.17	141524	9.01	82409	12.25	57314	14.80	47157	5.91
MC9090-15	82831	8.18	140578	9.01	81455	12.25	57427	14.81	41261	5.91
ZZZZZZ	84916	8.17	144415	9.01	86534	12.24	94550	14.80	46067	5.91
ZZZZZZ	85631	8.17	143607	9.00	90121	12.24	93969	14.80	43000	5.88
ZZZZZZ	80699	8.18	137143	9.01	80468	12.25	56596	14.81	47348	5.92
ZZZZZZ	77718	8.18	134612	9.01	77844	12.25	54242	14.81	47581	5.91
ZZZZZZ	82658	8.17	140511	9.00	90522	12.24	95427	14.80	45055	5.87

IS 1 = Pentafluorobenzene

IS 2 = 1,4-Difluorobenzene

IS 3 = Chlorobenzene-D5

IS 4 = 1,4-Dichlorobenzene-d4

IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Check Std: MSN2321-CC2292

Injection Date: 04/04/12

Lab File ID: N62030.D

Injection Time: 05:10

Instrument ID: GCMSN

Method: SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	342532	9.02	579538	9.89	317934	13.15	250704	15.71	155859	6.57
Upper Limit ^a	685064	9.52	1159076	10.39	635868	13.65	501408	16.21	311718	7.07
Lower Limit ^b	171266	8.52	289769	9.39	158967	12.65	125352	15.21	77930	6.07

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2321-BS	344350	9.02	582182	9.89	313312	13.15	249639	15.71	153534	6.57
MSN2321-MB	330357	9.02	558348	9.89	285650	13.15	203461	15.71	143464	6.58
ZZZZZZ	324643	9.02	551132	9.89	298855	13.15	243183	15.71	146442	6.57
ZZZZZZ	335886	9.02	568562	9.89	313571	13.15	241712	15.71	146349	6.58
ZZZZZZ	343548	9.02	579585	9.89	301500	13.15	231431	15.71	133209	6.58
ZZZZZZ	338409	9.02	571706	9.89	292861	13.15	226777	15.71	139252	6.58
ZZZZZZ	336511	9.02	572727	9.89	294876	13.15	222642	15.71	152030	6.58
ZZZZZZ	335810	9.02	570296	9.89	292265	13.15	219074	15.71	141405	6.58
ZZZZZZ	330800	9.02	566129	9.89	287629	13.15	209963	15.71	147000	6.58
ZZZZZZ	326487	9.02	548049	9.89	281085	13.15	209228	15.71	152301	6.58
ZZZZZZ	322765	9.02	547194	9.89	282769	13.15	209631	15.71	154021	6.58
ZZZZZZ	307092	9.02	528310	9.89	273482	13.15	192629	15.71	148783	6.58
ZZZZZZ	325617	9.02	561855	9.89	327455	13.15	266476	15.71	169196	6.57
MC9090-1	326093	9.02	561049	9.89	287434	13.15	213437	15.71	176811	6.58
MC9090-3	320883	9.02	551410	9.89	284025	13.15	207641	15.71	171461	6.58
MC9090-5	314163	9.02	547998	9.89	284909	13.15	198592	15.71	158253	6.58
MC9090-7	315149	9.02	540159	9.89	281870	13.15	198442	15.71	164928	6.58
MC9090-7MS	317789	9.02	547105	9.89	294840	13.15	239921	15.71	173667	6.57
MC9090-7MSD	323536	9.02	560488	9.89	306663	13.15	237906	15.71	177869	6.57

IS 1 = Pentafluorobenzene

IS 2 = 1,4-Difluorobenzene

IS 3 = Chlorobenzene-D5

IS 4 = 1,4-Dichlorobenzene-d4

IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Check Std: MSP1960-CC1956

Injection Date: 04/05/12

Lab File ID: P60438.D

Injection Time: 11:06

Instrument ID: GCMSP

Method: SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	80413	8.47	128932	9.33	65279	12.55	63472	15.11	28558	6.15
Upper Limit ^a	160826	8.97	257864	9.83	130558	13.05	126944	15.61	57116	6.65
Lower Limit ^b	40207	7.97	64466	8.83	32640	12.05	31736	14.61	14279	5.65

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSP1960-BS	80413	8.47	128932	9.33	65279	12.55	63472	15.11	28558	6.15
MSP1960-MB	72365	8.48	114014	9.34	55125	12.56	45353	15.12	21348	6.17
ZZZZZZ	74779	8.48	117413	9.34	58000	12.56	54753	15.12	27330	6.25
MC9090-11	67211	8.48	104872	9.34	50341	12.56	44467	15.12	27077	6.17
MC9090-15	75447	8.48	120802	9.34	58766	12.56	56980	15.12	37582	6.27
MC9090-9	61760	8.48	96473	9.34	46950	12.56	38585	15.12	25268	6.17
ZZZZZZ	72946	8.48	112676	9.34	56140	12.56	57012	15.11	27664	6.17
ZZZZZZ	74438	8.48	117315	9.34	58800	12.56	62968	15.11	24464	6.16
ZZZZZZ	60209	8.48	91587	9.34	46962	12.56	49622	15.11	20205	6.17
ZZZZZZ	78311	8.48	123266	9.34	63058	12.56	65890	15.11	35103	6.16
ZZZZZZ	77977	8.48	123651	9.33	60910	12.56	60077	15.11	36595	6.17
ZZZZZZ	64171	8.48	97211	9.34	48341	12.56	43463	15.12	31073	6.16
ZZZZZZ	74393	8.48	116982	9.34	57358	12.56	54058	15.12	32721	6.16
ZZZZZZ	73888	8.48	118106	9.34	56221	12.56	59381	15.11	26198	6.16
ZZZZZZ	72946	8.48	115429	9.34	57146	12.56	55742	15.11	22110	6.16
GP14339-LB1	72866	8.48	115288	9.34	57231	12.56	47899	15.12	25666	6.17
ZZZZZZ	71597	8.48	112678	9.34	54753	12.56	47125	15.12	23273	6.17
ZZZZZZ	65793	8.48	104450	9.34	50801	12.56	42125	15.12	23952	6.17
MC9291-3	62609	8.48	99216	9.34	48555	12.56	41871	15.12	22723	6.18
MC9291-3MS	74360	8.48	117976	9.33	62135	12.55	62907	15.11	26214	6.16
MC9291-3MSD	72108	8.48	118110	9.33	62362	12.55	58334	15.11	25118	6.16

IS 1 = Pentafluorobenzene

IS 2 = 1,4-Difluorobenzene

IS 3 = Chlorobenzene-D5

IS 4 = 1,4-Dichlorobenzene-d4

IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Check Std: MSV290-CC285

Injection Date: 04/05/12

Lab File ID: V6654.D

Injection Time: 09:12

Instrument ID: GCMSV

Method: SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	437719	6.54	721023	7.73	438757	11.08	383461	13.32	250292	3.50
Upper Limit ^a	875438	7.04	1442046	8.23	877514	11.58	766922	13.82	500584	4.00
Lower Limit ^b	218860	6.04	360512	7.23	219379	10.58	191731	12.82	125146	3.00

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSV290-BS	469777	6.54	757261	7.73	445012	11.08	404566	13.32	249349	3.50
MSV290-BSD	478976	6.54	738055	7.73	460347	11.08	422775	13.32	293637	3.50
MSV290-MB	456873	6.54	754706	7.73	450505	11.08	381077	13.32	265626	3.50
ZZZZZZ	443545	6.54	692064	7.73	432689	11.08	382178	13.32	250988	3.49
MC9090-17	438152	6.53	726495	7.72	439182	11.08	370944	13.32	226126	3.49
MC9165-3	437917	6.53	695768	7.72	427767	11.08	375910	13.32	227480	3.48
ZZZZZZ	437672	6.54	715805	7.73	443785	11.08	399032	13.32	255545	3.50
ZZZZZZ	440333	6.54	683570	7.73	443565	11.08	362116	13.32	194973	3.49
ZZZZZZ	434605	6.53	695342	7.72	422838	11.08	389220	13.32	201876	3.48
ZZZZZZ	438160	6.54	689045	7.73	439153	11.08	375154	13.32	209900	3.49
ZZZZZZ	478268	6.54	780135	7.73	460539	11.08	432717	13.32	226845	3.49
ZZZZZZ	425313	6.54	726159	7.72	451777	11.08	373310	13.32	203074	3.49
ZZZZZZ	432836	6.54	685252	7.73	427753	11.08	365447	13.32	214251	3.49
ZZZZZZ	452064	6.54	725979	7.72	426186	11.08	363774	13.32	227297	3.49
ZZZZZZ	447105	6.53	691380	7.72	430729	11.08	386565	13.32	239490	3.48
MC9090-13	437639	6.54	728789	7.73	456798	11.08	368137	13.32	274839	3.49
ZZZZZZ	454580	6.54	696326	7.73	429458	11.08	402584	13.32	211523	3.50
ZZZZZZ	462083	6.54	771811	7.73	474143	11.08	390555	13.32	185057	3.49
ZZZZZZ	455758	6.54	701229	7.72	443338	11.08	387424	13.32	206956	3.49
ZZZZZZ	456810	6.53	720210	7.72	462463	11.08	411474	13.31	223073	3.49
MC9165-3MS	463459	6.54	721813	7.72	478342	11.08	404625	13.31	209731	3.49
MC9165-3MSD	489716	6.54	742026	7.72	454035	11.08	403716	13.31	227381	3.49

IS 1 = Pentafluorobenzene

IS 2 = 1,4-Difluorobenzene

IS 3 = Chlorobenzene-D5

IS 4 = 1,4-Dichlorobenzene-d4

IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Page 1 of 1

Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Method: SW846 8260B

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC9090-1	N62046.D	76.0	83.0	84.0
MC9090-3	N62047.D	77.0	85.0	86.0
MC9090-5	N62048.D	77.0	84.0	89.0
MC9090-7	N62049.D	77.0	84.0	88.0
MC9090-9	P60445.D	110.0	120.0	139.0* a
MC9090-9	L61930.D	92.0	96.0	105.0
MC9090-11	P60443.D	114.0	120.0	134.0* a
MC9090-11	L61931.D	89.0	94.0	101.0
MC9090-13	V6671.D	91.0	84.0	100.0
MC9090-15	P60444.D	101.0	107.0	112.0
MC9090-15	L61933.D	88.0	92.0	100.0
MC9090-17	V6660.D	94.0	87.0	97.0
MC9090-7MS	N62050.D	79.0	85.0	81.0
MC9090-7MSD	N62051.D	78.0	86.0	82.0
MSL2090-BS	L61926.D	92.0	96.0	96.0
MSL2090-BSD	L61927.D	91.0	97.0	96.0
MSL2090-MB	L61929.D	92.0	95.0	104.0
MSN2321-BS	N62031.D	75.0	85.0	80.0
MSN2321-MB	N62033.D	75.0	85.0	87.0
MSP1960-BS	P60438.D	113.0	117.0	126.0
MSP1960-MB	P60440.D	98.0	106.0	121.0
MSV290-BS	V6655.D	94.0	94.0	93.0
MSV290-BSD	V6656.D	91.0	92.0	91.0
MSV290-MB	V6658.D	87.0	84.0	96.0

Surrogate Compounds

Recovery Limits

S1 = Dibromofluoromethane

70-130%

S2 = Toluene-D8

70-130%

S3 = 4-Bromofluorobenzene

70-130%

(a) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Page 1 of 1

Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP28390-MB	BG34588.D	1	03/30/12	KN	03/29/12	OP28390	GBG1272

The QC reported here applies to the following samples:

Method: CT-ETPH 7/06

MC9090-1, MC9090-3, MC9090-5

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.080	mg/l	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	133% 50-149%

Method Blank Summary

Page 1 of 1

Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP28404-MB	BG34675.D	1	04/01/12	KN	03/31/12	OP28404	GBG1275

The QC reported here applies to the following samples:

Method: CT-ETPH 7/06

MC9090-7, MC9090-9, MC9090-11, MC9090-13, MC9090-15

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.080	mg/l	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	86% 50-149%

Method Blank Summary

Page 1 of 1

Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP28373-MB	BE30023.D	1	03/30/12	AP	03/28/12	OP28373	GBE1672

The QC reported here applies to the following samples:

Method: SW846 8082

MC9090-1, MC9090-3, MC9090-5, MC9090-7, MC9090-9, MC9090-11, MC9090-13, MC9090-15

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.25	ug/l	
11141-16-5	Aroclor 1232	ND	0.25	ug/l	
53469-21-9	Aroclor 1242	ND	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.25	ug/l	
37324-23-5	Aroclor 1262	ND	0.25	ug/l	
11100-14-4	Aroclor 1268	ND	0.25	ug/l	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	115%	30-150%
877-09-8	Tetrachloro-m-xylene	117%	30-150%
2051-24-3	Decachlorobiphenyl	117%	30-150%
2051-24-3	Decachlorobiphenyl	120%	30-150%

Blank Spike Summary

Page 1 of 1

Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP28390-BS	BG34589.D	1	03/30/12	KN	03/29/12	OP28390	GBG1272

The QC reported here applies to the following samples:

Method: CT-ETPH 7/06

MC9090-1, MC9090-3, MC9090-5

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	CT-ETPH (C9-C36)	0.7	0.640	91	60-120

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	132%	50-149%

Blank Spike Summary

Page 1 of 1

Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP28404-BS	BG34677.D	1	04/01/12	KN	03/31/12	OP28404	GBG1275

The QC reported here applies to the following samples:

Method: CT-ETPH 7/06

MC9090-7, MC9090-9, MC9090-11, MC9090-13, MC9090-15

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	CT-ETPH (C9-C36)	0.7	0.623	89	60-120

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	101%	50-149%

Blank Spike Summary

Page 1 of 1

Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP28373-BS	BE30024.D	1	03/30/12	AP	03/28/12	OP28373	GBE1672

The QC reported here applies to the following samples:

Method: SW846 8082

MC9090-1, MC9090-3, MC9090-5, MC9090-7, MC9090-9, MC9090-11, MC9090-13, MC9090-15

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
12674-11-2	Aroclor 1016	2	1.8	90	40-140
11104-28-2	Aroclor 1221		ND		40-140
11141-16-5	Aroclor 1232		ND		40-140
53469-21-9	Aroclor 1242		ND		40-140
12672-29-6	Aroclor 1248		ND		40-140
11097-69-1	Aroclor 1254		ND		40-140
11096-82-5	Aroclor 1260	2	1.7	85	40-140
37324-23-5	Aroclor 1262		ND		40-140
11100-14-4	Aroclor 1268		ND		40-140

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	116%	30-150%
877-09-8	Tetrachloro-m-xylene	117%	30-150%
2051-24-3	Decachlorobiphenyl	102%	30-150%
2051-24-3	Decachlorobiphenyl	99%	30-150%

Semivolatile Surrogate Recovery Summary

Page 1 of 1

Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Method: CT-ETPH 7/06

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a
MC9090-1	BG34601.D	140.0
MC9090-3	BG34592.D	112.0
MC9090-5	BG34593.D	124.0
MC9090-7	BG34703.D	91.0
MC9090-9	BG34709.D	89.0
MC9090-11	BG34701.D	88.0
MC9090-13	BG34715.D	95.0
MC9090-15	BG34711.D	92.0
OP28390-BS	BG34589.D	132.0
OP28390-MB	BG34588.D	133.0
OP28404-BS	BG34677.D	101.0
OP28404-MB	BG34675.D	86.0

Surrogate Compounds	Recovery Limits
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S1 = o-Terphenyl	50-149%
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(a) Recovery from GC signal #1

6.3.1

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Semivolatile Surrogate Recovery Summary

Page 1 of 1

Job Number: MC9090

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Method: SW846 8082

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a	S1 ^b	S2 ^a	S2 ^b
MC9090-1	BK11162.D	121.0	92.0	80.0	86.0
MC9090-3	BK11163.D	82.0	89.0	76.0	83.0
MC9090-5	BK11165.D	90.0	80.0	84.0	91.0
MC9090-7	BK11166.D	88.0	103.0	110.0	121.0
MC9090-9	BK11167.D	87.0	91.0	79.0	88.0
MC9090-11	BK11168.D	82.0	89.0	75.0	83.0
MC9090-13	BK11169.D	92.0	203.0* ^c	98.0	108.0
MC9090-15	BK11170.D	89.0	95.0	97.0	107.0
OP28373-BS	BE30024.D	116.0	117.0	102.0	99.0
OP28373-MB	BE30023.D	115.0	117.0	117.0	120.0

Surrogate Compounds

Recovery Limits

S1 = Tetrachloro-m-xylene

30-150%

S2 = Decachlorobiphenyl

30-150%

(a) Recovery from GC signal #1

(b) Recovery from GC signal #2

(c) Outside control limits due to possible matrix interference.

6.3.2

6

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC9090
Account: LEA - Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18786
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/29/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	12	21		
Antimony	6.0	1.1	1.7		
Arsenic	4.0	.88	1.9	0.10	<4.0
Barium	50	.24	.65	0.20	<50
Beryllium	4.0	.15	.28		
Boron	100	.39	.59		
Cadmium	4.0	.12	.17	0.20	<4.0
Calcium	5000	5.8	17		
Chromium	10	.65	.7	0.40	<10
Cobalt	50	.13	.38		
Copper	25	.48	1.4	0.60	<25
Gold	50	2	2.7		
Iron	100	3.5	11		
Lead	5.0	1.3	2.1	0.60	<5.0
Magnesium	5000	34	60		
Manganese	15	.15	.54		
Molybdenum	100	.53	1.5		
Nickel	40	.22	.7	0.30	<40
Palladium	50	3.2	7.9		
Platinum	50	6.4	9.6		
Potassium	5000	42	190		
Selenium	10	1.5	2	0.30	<10
Silicon	100	1.1	8.4		
Silver	5.0	.71	1.3	0.40	<5.0
Sodium	5000	14	40		
Strontium	10	.19	.35		
Thallium	5.0	.71	1.4		
Tin	100	.43	.6		
Titanium	50	.46	.72		
Tungsten	100	6.9	14		
Vanadium	10	.7	1.3		
Zinc	20	1.2	4	0.30	<20

Associated samples MP18786: MC9090-2, MC9090-4, MC9090-6, MC9090-8, MC9090-10, MC9090-12, MC9090-14, MC9090-16

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC9090
Account: LEA - Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18786
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC9090
 Account: LEA - Loureiro Eng. Associates
 Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18786
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 03/29/12

Metal	MC9090-12 Original MS		Spikelot MPICP	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	0.0	528	500	105.6	75-125
Barium	210	2250	2000	102.0	75-125
Beryllium					
Boron					
Cadmium	0.50	516	500	103.1	75-125
Calcium	anr				
Chromium	2.3	523	500	104.1	75-125
Cobalt					
Copper	1.4	508	500	101.3	75-125
Gold					
Iron	anr				
Lead	0.0	996	1000	99.6	75-125
Magnesium	anr				
Manganese					
Molybdenum					
Nickel	4.3	511	500	101.3	75-125
Palladium					
Platinum					
Potassium					
Selenium	0.0	508	500	101.6	75-125
Silicon					
Silver	0.0	211	200	105.5	75-125
Sodium	anr				
Strontium					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc	15.8	536	500	104.0	75-125

Associated samples MP18786: MC9090-2, MC9090-4, MC9090-6, MC9090-8, MC9090-10, MC9090-12, MC9090-14, MC9090-16

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC9090

Account: LEA - Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18786

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC9090
 Account: LEA - Loureiro Eng. Associates
 Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18786
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 03/29/12

Metal	MC9090-12 Original	MSD	Spikelot MPICP	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	0.0	527	500	105.4	0.2	20
Barium	210	2220	2000	100.5	1.3	20
Beryllium						
Boron						
Cadmium	0.50	514	500	102.7	0.4	20
Calcium	anr					
Chromium	2.3	518	500	103.1	1.0	20
Cobalt						
Copper	1.4	501	500	99.9	1.4	20
Gold						
Iron	anr					
Lead	0.0	993	1000	99.3	0.3	20
Magnesium	anr					
Manganese						
Molybdenum						
Nickel	4.3	510	500	101.1	0.2	20
Palladium						
Platinum						
Potassium						
Selenium	0.0	507	500	101.4	0.2	20
Silicon						
Silver	0.0	207	200	103.5	1.9	20
Sodium	anr					
Strontium						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc	15.8	532	500	103.2	0.7	20

Associated samples MP18786: MC9090-2, MC9090-4, MC9090-6, MC9090-8, MC9090-10, MC9090-12, MC9090-14, MC9090-16

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC9090

Account: LEA - Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18786

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC9090

Account: LEA - Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18786

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

03/29/12

03/29/12

Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony									
Arsenic	513	500	102.6	80-120	516	500	103.2	0.6	20
Barium	1980	2000	99.0	80-120	1990	2000	99.5	0.5	20
Beryllium									
Boron									
Cadmium	499	500	99.8	80-120	503	500	100.6	0.8	20
Calcium	anr								
Chromium	511	500	102.2	80-120	525	500	105.0	2.7	20
Cobalt									
Copper	481	500	96.2	80-120	494	500	98.8	2.7	20
Gold									
Iron	anr								
Lead	997	1000	99.7	80-120	982	1000	98.2	1.5	20
Magnesium	anr								
Manganese									
Molybdenum									
Nickel	501	500	100.2	80-120	503	500	100.6	0.4	20
Palladium									
Platinum									
Potassium									
Selenium	496	500	99.2	80-120	500	500	100.0	0.8	20
Silicon									
Silver	202	200	101.0	80-120	204	200	102.0	1.0	20
Sodium	anr								
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium									
Zinc	514	500	102.8	80-120	516	500	103.2	0.4	20

Associated samples MP18786: MC9090-2, MC9090-4, MC9090-6, MC9090-8, MC9090-10, MC9090-12, MC9090-14, MC9090-16

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC9090

Account: LEA - Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18786

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC9090
 Account: LEA - Loureiro Eng. Associates
 Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18786
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 03/29/12

Metal	MC9090-12 Original SDL 1:5		%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium	210	205	2.4	0-10
Beryllium				
Boron				
Cadmium	0.500	0.900	80.0 (a)	0-10
Calcium	anr			
Chromium	2.30	0.00	100.0(a)	0-10
Cobalt				
Copper	1.40	0.00	100.0(a)	0-10
Gold				
Iron	anr			
Lead	0.00	0.00	NC	0-10
Magnesium	anr			
Manganese				
Molybdenum				
Nickel	4.30	4.90	14.0 (a)	0-10
Palladium				
Platinum				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium	anr			
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc	15.8	15.3	3.2	0-10

Associated samples MP18786: MC9090-2, MC9090-4, MC9090-6, MC9090-8, MC9090-10, MC9090-12, MC9090-14, MC9090-16

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC9090

Account: LEA - Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18786

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

7.1.4

7

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC9090
Account: LEA - Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18790
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 03/29/12

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.021	.062	-0.077	<0.20

Associated samples MP18790: MC9090-2, MC9090-4, MC9090-6, MC9090-8, MC9090-10, MC9090-12, MC9090-14, MC9090-16

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC9090
 Account: LEA - Loureiro Eng. Associates
 Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP18790
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 03/29/12 03/29/12

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits	BSD Result	Spikelot HGRWS1	% Rec	BSD RPD	QC Limit
Mercury	3.0	3	100.0	80-120	3.0	3	100.0	0.0	20

Associated samples MP18790: MC9090-2, MC9090-4, MC9090-6, MC9090-8, MC9090-10, MC9090-12, MC9090-14, MC9090-16

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

7.2.2

7



09/21/12

Technical Report for

Loureiro Eng. Associates

PWCTEH: Willow Brook - Pond W. East Hartford

88UT059

Accutest Job Number: MC13777

Sampling Date: 09/06/12

Report to:

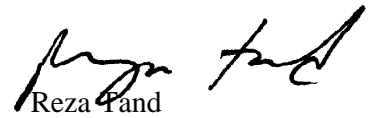
Loureiro Eng
100 Northwest Dr.
Plainville, CT 06062
jttrzaski@loureiro.com; rlmckinney@loureiro.com

ATTN: Joe Trzaski

Total number of pages in report: **110**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.


Reza Pand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136, SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Test results relate only to samples analyzed.

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Sample Summary

Loureiro Eng. Associates

Job No: MC13777

PWCTEH: Willow Brook - Pond W. East Hartford
Project No: 88UT059

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC13777-1	09/06/12	10:46	JCSR	09/06/12	AQ Ground Water	1264979
MC13777-2	09/06/12	10:46	JCSR	09/06/12	AQ Ground Water	1264979UF
MC13777-3	09/06/12	10:46	JCSR	09/06/12	AQ Ground Water	1264991
MC13777-4	09/06/12	10:46	JCSR	09/06/12	AQ Ground Water	1264991UF
MC13777-5	09/06/12	10:51	JCSR	09/06/12	AQ Trip Blank Water	1264990
MC13777-6	09/06/12	13:36	JCSR	09/06/12	AQ Ground Water	1264980
MC13777-7	09/06/12	13:36	JCSR	09/06/12	AQ Ground Water	1264980UF
MC13777-8	09/06/12	15:30	JCSR	09/06/12	AQ Ground Water	1264889
MC13777-9	09/06/12	15:30	JCSR	09/06/12	AQ Ground Water	1264889UF
MC13777-10	09/06/12	12:35	JCSR	09/06/12	AQ Ground Water	1264977
MC13777-11	09/06/12	12:35	JCSR	09/06/12	AQ Ground Water	1264977UF
MC13777-12	09/06/12	15:16	JCSR	09/06/12	AQ Ground Water	1264981
MC13777-13	09/06/12	15:16	JCSR	09/06/12	AQ Ground Water	1264981UF



Sample Summary
(continued)

Loureiro Eng. Associates

Job No: MC13777

PWCTEH:Willow Brook - Pond W. East Hartford
Project No: 88UT059

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC13777-14	09/06/12	15:05	JCSR	09/06/12	AQ Ground Water	1264978
MC13777-15	09/06/12	15:05	JCSR	09/06/12	AQ Ground Water	1264978UF
MC13777-16	09/06/12	10:35	JCSR	09/06/12	AQ Ground Water	1264976
MC13777-17	09/06/12	10:35	JCSR	09/06/12	AQ Ground Water	1264976UF

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Loureiro Eng. Associates

Job No MC13777

Site: PWCTEH:Willow Brook - Pond W. East Hartford

Report Date 9/21/2012 12:02:22 PM

16 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 09/06/2012 and were received at Accutest on 09/06/2012 properly preserved, at 2.1 Deg. C and intact. These Samples received an Accutest job number of MC13777. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ

Batch ID: MSL3186

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC13777-1MS, MC13777-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MSL3186-BS for Acetone, Bromomethane are outside control limits. Blank Spike meets program technical requirements.
- MC13777-1MS/MSD for Trichloroethene, Acetone, Bromomethane are outside control limits. Blank Spike meets program technical requirements.
- MC13777-1MS/MSD for Trichloroethene are outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD(s) for MC13777-1MSD for Bromomethane are outside control limits. Blank Spike meets program technical requirements.
- MC13777-6 for Dibromofluoromethane: Outside control limits due to possible matrix interference.
- Continuing calibration check standard MSL3186-CC3152 for bromomethane, acetone exceed 30% Difference. This check standard met RCP criteria.

Matrix: AQ

Batch ID: MSP2106

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- MSP2106-BS for 2-Hexanone, Acetone are outside control limits. Blank Spike meets program technical requirements.
- Initial calibration verification MSP2106-ICV2106 for acetone exceeds 35% Difference.
- Continuing calibration check standard MSP2106-CC2106 for acetone, 2-hexanone exceed 30% Difference. This check standard met RCP criteria.
- Quadratic regression is employed for initial calibration standard MSP2106-ICC2106 for 2,2-dichloropropane, 1,1,2-trichloroethane, 1,3-dichloropropane, bromoform, 1,2-dibromo-3-chloropropane.

Extractables by GC By Method CT-ETPH 7/06

Matrix: AQ

Batch ID: OP30303

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Extractables by GC By Method SW846 8082

Matrix: AQ

Batch ID: OP30302

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010C

Matrix: AQ

Batch ID: MP19630

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC13777-15MS, MC13777-15MSD, MC13777-15SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Chromium, Copper, Nickel are outside control limits for sample MP19630-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- Only selected metals requested.

Metals By Method SW846 7470A

Matrix: AQ

Batch ID: MP19637

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC13777-7MS, MC13777-7MSD were used as the QC samples for metals.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report (MC13777).

Summary of Hits

Job Number: MC13777
Account: Loureiro Eng. Associates
Project: PWCTEH: Willow Brook - Pond W. East Hartford
Collected: 09/06/12



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

MC13777-1 1264979

Chloroethane	12.0	2.0		ug/l	SW846 8260B
Chloroform	1.5	1.0		ug/l	SW846 8260B
1,1-Dichloroethane	8.0	1.0		ug/l	SW846 8260B
1,1-Dichloroethene	74.8	1.0		ug/l	SW846 8260B
cis-1,2-Dichloroethene	60.9	1.0		ug/l	SW846 8260B
Tetrachloroethene	27.6	1.0		ug/l	SW846 8260B
Tetrahydrofuran	56.1	10		ug/l	SW846 8260B
1,1,1-Trichloroethane	17.8	1.0		ug/l	SW846 8260B
Trichloroethene	199	1.0		ug/l	SW846 8260B
Vinyl chloride	11.3	1.0		ug/l	SW846 8260B
CT-ETPH (C9-C36)	0.100	0.080		mg/l	CT-ETPH 7/06

MC13777-2 1264979UF

Arsenic	5.1	4.0		ug/l	SW846 6010C
Barium	344	50		ug/l	SW846 6010C

MC13777-3 1264991

Chloroethane	6.1	4.0		ug/l	SW846 8260B
1,1-Dichloroethane	8.4	2.0		ug/l	SW846 8260B
1,1-Dichloroethene	115	2.0		ug/l	SW846 8260B
cis-1,2-Dichloroethene	69.4	2.0		ug/l	SW846 8260B
Tetrachloroethene	57.3	2.0		ug/l	SW846 8260B
Tetrahydrofuran	23.5	20		ug/l	SW846 8260B
1,1,1-Trichloroethane	28.0	2.0		ug/l	SW846 8260B
Trichloroethene	332	2.0		ug/l	SW846 8260B
Vinyl chloride	10.1	2.0		ug/l	SW846 8260B
CT-ETPH (C9-C36)	0.0942	0.080		mg/l	CT-ETPH 7/06

MC13777-4 1264991UF

Arsenic	5.3	4.0		ug/l	SW846 6010C
Barium	331	50		ug/l	SW846 6010C

MC13777-5 1264990

No hits reported in this sample.

MC13777-6 1264980

Benzene	16.1	0.50		ug/l	SW846 8260B
Chloroethane	20.1	2.0		ug/l	SW846 8260B

Summary of Hits

Job Number: MC13777
Account: Loureiro Eng. Associates
Project: PWCTEH: Willow Brook - Pond W. East Hartford
Collected: 09/06/12



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Analyte						
1,1-Dichloroethane		98.4	1.0		ug/l	SW846 8260B
1,1-Dichloroethene		28.8	1.0		ug/l	SW846 8260B
cis-1,2-Dichloroethene		1250	10		ug/l	SW846 8260B
trans-1,2-Dichloroethene		2.6	1.0		ug/l	SW846 8260B
Tetrachloroethene		187	1.0		ug/l	SW846 8260B
1,1,1-Trichloroethane		52.0	1.0		ug/l	SW846 8260B
Trichloroethene		320	1.0		ug/l	SW846 8260B
Vinyl chloride		200	1.0		ug/l	SW846 8260B
CT-ETPH (C9-C36)		0.182	0.080		mg/l	CT-ETPH 7/06
MC13777-7 1264980UF						
Barium		395	50		ug/l	SW846 6010C
MC13777-8 1264889						
No hits reported in this sample.						
MC13777-9 1264889UF						
No hits reported in this sample.						
MC13777-10 1264977						
1,1-Dichloroethane		8.0	1.0		ug/l	SW846 8260B
cis-1,2-Dichloroethene		7.6	1.0		ug/l	SW846 8260B
Tetrachloroethene		2.9	1.0		ug/l	SW846 8260B
Trichloroethene		7.2	1.0		ug/l	SW846 8260B
Vinyl chloride		5.7	1.0		ug/l	SW846 8260B
CT-ETPH (C9-C36)		0.908	0.082		mg/l	CT-ETPH 7/06
MC13777-11 1264977UF						
Barium		192	50		ug/l	SW846 6010C
Cadmium		467	4.0		ug/l	SW846 6010C
Chromium		10.7	10		ug/l	SW846 6010C
Copper		302	25		ug/l	SW846 6010C
Nickel		2440	40		ug/l	SW846 6010C
Silver		64.5	5.0		ug/l	SW846 6010C
Zinc		39.1	20		ug/l	SW846 6010C
MC13777-12 1264981						
Benzene		2.9	0.50		ug/l	SW846 8260B
Chloroform		16.0	1.0		ug/l	SW846 8260B

Summary of Hits

Page 3 of 3

Job Number: MC13777
Account: Loureiro Eng. Associates
Project: PWCTEH: Willow Brook - Pond W. East Hartford
Collected: 09/06/12



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Analyte						
1,1-Dichloroethane		7.8	1.0		ug/l	SW846 8260B
1,1-Dichloroethene		2.8	1.0		ug/l	SW846 8260B
cis-1,2-Dichloroethene		60.4	1.0		ug/l	SW846 8260B
Tetrachloroethene		162	1.0		ug/l	SW846 8260B
Trichloroethene		228	1.0		ug/l	SW846 8260B
Vinyl chloride		13.3	1.0		ug/l	SW846 8260B
CT-ETPH (C9-C36)		0.147	0.080		mg/l	CT-ETPH 7/06
MC13777-13 1264981UF						
Copper		46.2	25		ug/l	SW846 6010C
Nickel		207	40		ug/l	SW846 6010C
MC13777-14 1264978						
1,1-Dichloroethane		11.4	1.0		ug/l	SW846 8260B
cis-1,2-Dichloroethene		4.9	1.0		ug/l	SW846 8260B
Vinyl chloride		7.3	1.0		ug/l	SW846 8260B
CT-ETPH (C9-C36)		0.0855	0.080		mg/l	CT-ETPH 7/06
MC13777-15 1264978UF						
Barium		312	50		ug/l	SW846 6010C
MC13777-16 1264976						
No hits reported in this sample.						
MC13777-17 1264976UF						
No hits reported in this sample.						

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	1264979	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-1	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L66883.D	1	09/17/12	JM	n/a	n/a	MSL3186
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	12.0	2.0	ug/l	
67-66-3	Chloroform	1.5	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	8.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	74.8	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	60.9	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264979	Date Sampled: 09/06/12
Lab Sample ID: MC13777-1	Date Received: 09/06/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	27.6	1.0	ug/l	
109-99-9	Tetrahydrofuran	56.1	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	17.8	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	199	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	11.3	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264979	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-1	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	90%		70-130%
460-00-4	4-Bromofluorobenzene	88%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	1264979		
Lab Sample ID:	MC13777-1	Date Sampled:	09/06/12
Matrix:	AQ - Ground Water	Date Received:	09/06/12
Method:	CT-ETPH 7/06 SW846 3510C	Percent Solids:	n/a
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC645210.D	1	09/10/12	KN	09/08/12	OP30303	GBC3114
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	0.100	0.080	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	68%		50-149%	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264979	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-1	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK16902.D	1	09/13/12	AP	09/08/12	OP30302	GBK633
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.25	ug/l	
11141-16-5	Aroclor 1232	ND	0.25	ug/l	
53469-21-9	Aroclor 1242	ND	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.25	ug/l	
37324-23-5	Aroclor 1262	ND	0.25	ug/l	
11100-14-4	Aroclor 1268	ND	0.25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	88%		30-150%
877-09-8	Tetrachloro-m-xylene	57%		30-150%
2051-24-3	Decachlorobiphenyl	69%		30-150%
2051-24-3	Decachlorobiphenyl	45%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264979UF	Date Sampled: 09/06/12
Lab Sample ID: MC13777-2	Date Received: 09/06/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.1	4.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Barium	344	50	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Cadmium	< 4.0	4.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Chromium	< 10	10	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Copper	< 25	25	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Lead	< 5.0	5.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Mercury	< 0.20	0.20	ug/l	1	09/10/12	09/11/12	EM	SW846 7470A ¹
Nickel	< 40	40	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Selenium	< 10	10	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Silver	< 5.0	5.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Zinc	< 20	20	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²

(1) Instrument QC Batch: MA14696

(2) Instrument QC Batch: MA14700

(3) Prep QC Batch: MP19630

(4) Prep QC Batch: MP19637

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1264991	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-3	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L66889.D	2	09/17/12	JM	n/a	n/a	MSL3186
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
107-13-1	Acrylonitrile	ND	10	ug/l	
71-43-2	Benzene	ND	1.0	ug/l	
108-86-1	Bromobenzene	ND	10	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
74-83-9	Bromomethane	ND	4.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	10	ug/l	
135-98-8	sec-Butylbenzene	ND	10	ug/l	
98-06-6	tert-Butylbenzene	ND	10	ug/l	
75-15-0	Carbon disulfide	ND	10	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	6.1	4.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
74-87-3	Chloromethane	ND	4.0	ug/l	
95-49-8	o-Chlorotoluene	ND	10	ug/l	
106-43-4	p-Chlorotoluene	ND	10	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	4.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	4.0	ug/l	
75-34-3	1,1-Dichloroethane	8.4	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethene	115	2.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	69.4	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	4.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264991	Date Sampled: 09/06/12
Lab Sample ID: MC13777-3	Date Received: 09/06/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	10	ug/l	
594-20-7	2,2-Dichloropropane	ND	10	ug/l	
563-58-6	1,1-Dichloropropene	ND	10	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
76-13-1	Freon 113	ND	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	10	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
98-82-8	Isopropylbenzene	ND	10	ug/l	
99-87-6	p-Isopropyltoluene	ND	10	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	10	ug/l	
74-95-3	Methylene bromide	ND	10	ug/l	
75-09-2	Methylene chloride	ND	4.0	ug/l	
91-20-3	Naphthalene	ND	10	ug/l	
103-65-1	n-Propylbenzene	ND	10	ug/l	
100-42-5	Styrene	ND	10	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	10	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethene	57.3	2.0	ug/l	
109-99-9	Tetrahydrofuran	23.5	20	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	10	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	10	ug/l	
71-55-6	1,1,1-Trichloroethane	28.0	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
79-01-6	Trichloroethene	332	2.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	10	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	10	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	10	ug/l	
75-01-4	Vinyl chloride	10.1	2.0	ug/l	
	m,p-Xylene	ND	2.0	ug/l	
95-47-6	o-Xylene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	70%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264991	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-3	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	76%		70-130%
460-00-4	4-Bromofluorobenzene	74%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	1264991		
Lab Sample ID:	MC13777-3	Date Sampled:	09/06/12
Matrix:	AQ - Ground Water	Date Received:	09/06/12
Method:	CT-ETPH 7/06 SW846 3510C	Percent Solids:	n/a
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC645212.D	1	09/10/12	KN	09/08/12	OP30303	GBC3114
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	0.0942	0.080	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	68%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264991	
Lab Sample ID:	MC13777-3	Date Sampled: 09/06/12
Matrix:	AQ - Ground Water	Date Received: 09/06/12
Method:	SW846 8082 SW846 3510C	Percent Solids: n/a
Project:	PWCTEH: Willow Brook - Pond W. East Hartford	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK16903.D	1	09/13/12	AP	09/08/12	OP30302	GBK633
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.26	ug/l	
11104-28-2	Aroclor 1221	ND	0.26	ug/l	
11141-16-5	Aroclor 1232	ND	0.26	ug/l	
53469-21-9	Aroclor 1242	ND	0.26	ug/l	
12672-29-6	Aroclor 1248	ND	0.26	ug/l	
11097-69-1	Aroclor 1254	ND	0.26	ug/l	
11096-82-5	Aroclor 1260	ND	0.26	ug/l	
37324-23-5	Aroclor 1262	ND	0.26	ug/l	
11100-14-4	Aroclor 1268	ND	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	80%		30-150%
877-09-8	Tetrachloro-m-xylene	51%		30-150%
2051-24-3	Decachlorobiphenyl	68%		30-150%
2051-24-3	Decachlorobiphenyl	43%		30-150%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264991UF	Date Sampled: 09/06/12
Lab Sample ID: MC13777-4	Date Received: 09/06/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.3	4.0	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Barium	331	50	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Copper	< 25	25	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	09/10/12	09/11/12 EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Zinc	< 20	20	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14696

(2) Instrument QC Batch: MA14700

(3) Prep QC Batch: MP19630

(4) Prep QC Batch: MP19637

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1264990	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-5	Date Received:	09/06/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L66882.D	1	09/17/12	JM	n/a	n/a	MSL3186
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264990	Date Sampled: 09/06/12
Lab Sample ID: MC13777-5	Date Received: 09/06/12
Matrix: AQ - Trip Blank Water	Percent Solids: n/a
Method: SW846 8260B	
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	83%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264990	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-5	Date Received:	09/06/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	91%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264980	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-6	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P64528.D	1	09/14/12	TT	n/a	n/a	MSP2106
Run #2	L66890.D	10	09/17/12	JM	n/a	n/a	MSL3186

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	16.1	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	20.1	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	98.4	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	28.8	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	1250 ^a	10	ug/l	
156-60-5	trans-1,2-Dichloroethene	2.6	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264980	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-6	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	187	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	52.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	320	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	200	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%	69% ^b	70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264980	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-6	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	99%	74%	70-130%
460-00-4	4-Bromofluorobenzene	124%	72%	70-130%

(a) Result is from Run# 2

(b) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264980						
Lab Sample ID:	MC13777-6					Date Sampled:	09/06/12
Matrix:	AQ - Ground Water					Date Received:	09/06/12
Method:	CT-ETPH 7/06 SW846 3510C					Percent Solids:	n/a
Project:	PWCTEH: Willow Brook - Pond W. East Hartford						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC645204.D	1	09/10/12	KN	09/08/12	OP30303	GBC3114
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	0.182	0.080	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	65%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264980	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-6	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK16904.D	1	09/13/12	AP	09/08/12	OP30302	GBK633
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.25	ug/l	
11141-16-5	Aroclor 1232	ND	0.25	ug/l	
53469-21-9	Aroclor 1242	ND	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.25	ug/l	
37324-23-5	Aroclor 1262	ND	0.25	ug/l	
11100-14-4	Aroclor 1268	ND	0.25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	73%		30-150%
877-09-8	Tetrachloro-m-xylene	48%		30-150%
2051-24-3	Decachlorobiphenyl	60%		30-150%
2051-24-3	Decachlorobiphenyl	39%		30-150%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264980UF	Date Sampled: 09/06/12
Lab Sample ID: MC13777-7	Date Received: 09/06/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Barium	395	50	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Cadmium	< 4.0	4.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Chromium	< 10	10	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Copper	< 25	25	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Lead	< 5.0	5.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Mercury	< 0.20	0.20	ug/l	1	09/10/12	09/11/12	EM	SW846 7470A ¹
Nickel	< 40	40	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Selenium	< 10	10	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Silver	< 5.0	5.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Zinc	< 20	20	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²

(1) Instrument QC Batch: MA14696

(2) Instrument QC Batch: MA14700

(3) Prep QC Batch: MP19630

(4) Prep QC Batch: MP19637

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1264889	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-8	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L66884.D	1	09/17/12	JM	n/a	n/a	MSL3186
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264889	Date Sampled: 09/06/12
Lab Sample ID: MC13777-8	Date Received: 09/06/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	85%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264889	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-8	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	90%		70-130%
460-00-4	4-Bromofluorobenzene	88%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	1264889	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-8	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	CT-ETPH 7/06 SW846 3510C		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC645206.D	1	09/10/12	KN	09/08/12	OP30303	GBC3114
Run #2							

	Initial Volume	Final Volume
Run #1	850 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.094	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	71%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264889	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-8	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK16905.D	1	09/13/12	AP	09/08/12	OP30302	GBK633
Run #2							

Run #	Initial Volume	Final Volume
Run #1	950 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.26	ug/l	
11104-28-2	Aroclor 1221	ND	0.26	ug/l	
11141-16-5	Aroclor 1232	ND	0.26	ug/l	
53469-21-9	Aroclor 1242	ND	0.26	ug/l	
12672-29-6	Aroclor 1248	ND	0.26	ug/l	
11097-69-1	Aroclor 1254	ND	0.26	ug/l	
11096-82-5	Aroclor 1260	ND	0.26	ug/l	
37324-23-5	Aroclor 1262	ND	0.26	ug/l	
11100-14-4	Aroclor 1268	ND	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	73%		30-150%
877-09-8	Tetrachloro-m-xylene	50%		30-150%
2051-24-3	Decachlorobiphenyl	48%		30-150%
2051-24-3	Decachlorobiphenyl	32%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264889UF	Date Sampled: 09/06/12
Lab Sample ID: MC13777-9	Date Received: 09/06/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Barium	< 50	50	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Copper	< 25	25	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	09/10/12	09/11/12 EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Zinc	< 20	20	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14696

(2) Instrument QC Batch: MA14700

(3) Prep QC Batch: MP19630

(4) Prep QC Batch: MP19637

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1264977	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-10	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L66885.D	1	09/17/12	JM	n/a	n/a	MSL3186
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	8.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	7.6	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264977	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-10	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	2.9	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	7.2	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	5.7	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	83%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264977	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-10	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	88%		70-130%
460-00-4	4-Bromofluorobenzene	85%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	1264977	
Lab Sample ID:	MC13777-10	Date Sampled: 09/06/12
Matrix:	AQ - Ground Water	Date Received: 09/06/12
Method:	CT-ETPH 7/06 SW846 3510C	Percent Solids: n/a
Project:	PWCTEH: Willow Brook - Pond W. East Hartford	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC645248.D	1	09/11/12	KN	09/08/12	OP30303	GBC3114
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	0.908	0.082	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	62%		50-149%	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264977	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-10	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK16906.D	1	09/13/12	AP	09/08/12	OP30302	GBK633
Run #2							

Run #	Initial Volume	Final Volume
Run #1	970 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.26	ug/l	
11104-28-2	Aroclor 1221	ND	0.26	ug/l	
11141-16-5	Aroclor 1232	ND	0.26	ug/l	
53469-21-9	Aroclor 1242	ND	0.26	ug/l	
12672-29-6	Aroclor 1248	ND	0.26	ug/l	
11097-69-1	Aroclor 1254	ND	0.26	ug/l	
11096-82-5	Aroclor 1260	ND	0.26	ug/l	
37324-23-5	Aroclor 1262	ND	0.26	ug/l	
11100-14-4	Aroclor 1268	ND	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	66%		30-150%
877-09-8	Tetrachloro-m-xylene	40%		30-150%
2051-24-3	Decachlorobiphenyl	53%		30-150%
2051-24-3	Decachlorobiphenyl	36%		30-150%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264977UF	Date Sampled: 09/06/12
Lab Sample ID: MC13777-11	Date Received: 09/06/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³
Barium	192	50	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	467	4.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³
Chromium	10.7	10	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³
Copper	302	25	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	09/10/12	09/11/12	EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	2440	40	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³
Silver	64.5	5.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³
Zinc	39.1	20	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14696

(2) Instrument QC Batch: MA14700

(3) Prep QC Batch: MP19630

(4) Prep QC Batch: MP19637

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1264981	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-12	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L66888.D	1	09/17/12	JM	n/a	n/a	MSL3186
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	2.9	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	16.0	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	7.8	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	2.8	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	60.4	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264981	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-12	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	162	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	228	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	13.3	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	83%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264981	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-12	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	88%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	1264981		
Lab Sample ID:	MC13777-12	Date Sampled:	09/06/12
Matrix:	AQ - Ground Water	Date Received:	09/06/12
Method:	CT-ETPH 7/06 SW846 3510C	Percent Solids:	n/a
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC645240.D	1	09/11/12	KN	09/08/12	OP30303	GBC3114
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	0.147	0.080	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	71%		50-149%	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264981	
Lab Sample ID:	MC13777-12	Date Sampled: 09/06/12
Matrix:	AQ - Ground Water	Date Received: 09/06/12
Method:	SW846 8082 SW846 3510C	Percent Solids: n/a
Project:	PWCTEH: Willow Brook - Pond W. East Hartford	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK16907.D	1	09/13/12	AP	09/08/12	OP30302	GBK633
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.25	ug/l	
11141-16-5	Aroclor 1232	ND	0.25	ug/l	
53469-21-9	Aroclor 1242	ND	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.25	ug/l	
37324-23-5	Aroclor 1262	ND	0.25	ug/l	
11100-14-4	Aroclor 1268	ND	0.25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	79%		30-150%
877-09-8	Tetrachloro-m-xylene	51%		30-150%
2051-24-3	Decachlorobiphenyl	86%		30-150%
2051-24-3	Decachlorobiphenyl	57%		30-150%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264981UF	Date Sampled: 09/06/12
Lab Sample ID: MC13777-13	Date Received: 09/06/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analized By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Barium	< 50	50	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Copper	46.2	25	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	09/10/12	09/11/12 EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	207	40	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³
Zinc	< 20	20	ug/l	1	09/07/12	09/10/12 EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14696

(2) Instrument QC Batch: MA14700

(3) Prep QC Batch: MP19630

(4) Prep QC Batch: MP19637

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1264978	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-14	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L66886.D	1	09/17/12	JM	n/a	n/a	MSL3186
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	11.4	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	4.9	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264978	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-14	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	7.3	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	85%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264978	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-14	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	89%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	1264978	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-14	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	CT-ETPH 7/06 SW846 3510C		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC645238.D	1	09/11/12	KN	09/08/12	OP30303	GBC3114
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	0.0855	0.080	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	79%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264978						
Lab Sample ID:	MC13777-14					Date Sampled:	09/06/12
Matrix:	AQ - Ground Water					Date Received:	09/06/12
Method:	SW846 8082 SW846 3510C					Percent Solids:	n/a
Project:	PWCTEH: Willow Brook - Pond W. East Hartford						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK16908.D	1	09/13/12	AP	09/08/12	OP30302	GBK633
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.25	ug/l	
11141-16-5	Aroclor 1232	ND	0.25	ug/l	
53469-21-9	Aroclor 1242	ND	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.25	ug/l	
37324-23-5	Aroclor 1262	ND	0.25	ug/l	
11100-14-4	Aroclor 1268	ND	0.25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	72%		30-150%
877-09-8	Tetrachloro-m-xylene	48%		30-150%
2051-24-3	Decachlorobiphenyl	62%		30-150%
2051-24-3	Decachlorobiphenyl	41%		30-150%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264978UF	Date Sampled: 09/06/12
Lab Sample ID: MC13777-15	Date Received: 09/06/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Barium	312	50	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Cadmium	< 4.0	4.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Chromium	< 10	10	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Copper	< 25	25	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Lead	< 5.0	5.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Mercury	< 0.20	0.20	ug/l	1	09/10/12	09/11/12	EM	SW846 7470A ¹
Nickel	< 40	40	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Selenium	< 10	10	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Silver	< 5.0	5.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²
Zinc	< 20	20	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²

(1) Instrument QC Batch: MA14696

(2) Instrument QC Batch: MA14700

(3) Prep QC Batch: MP19630

(4) Prep QC Batch: MP19637

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1264976	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-16	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L66887.D	1	09/17/12	JM	n/a	n/a	MSL3186
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264976	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-16	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	80%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264976	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-16	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	84%		70-130%
460-00-4	4-Bromofluorobenzene	79%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	1264976	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-16	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	CT-ETPH 7/06 SW846 3510C		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC645236.D	1	09/11/12	KN	09/08/12	OP30303	GBC3114
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.080	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	59%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264976	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-16	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK16909.D	1	09/13/12	AP	09/08/12	OP30302	GBK633
Run #2							

Run #	Initial Volume	Final Volume
Run #1	970 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.26	ug/l	
11104-28-2	Aroclor 1221	ND	0.26	ug/l	
11141-16-5	Aroclor 1232	ND	0.26	ug/l	
53469-21-9	Aroclor 1242	ND	0.26	ug/l	
12672-29-6	Aroclor 1248	ND	0.26	ug/l	
11097-69-1	Aroclor 1254	ND	0.26	ug/l	
11096-82-5	Aroclor 1260	ND	0.26	ug/l	
37324-23-5	Aroclor 1262	ND	0.26	ug/l	
11100-14-4	Aroclor 1268	ND	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	64%		30-150%
877-09-8	Tetrachloro-m-xylene	46%		30-150%
2051-24-3	Decachlorobiphenyl	72%		30-150%
2051-24-3	Decachlorobiphenyl	49%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264976UF	Date Sampled: 09/06/12
Lab Sample ID: MC13777-17	Date Received: 09/06/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³
Barium	< 50	50	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³
Copper	< 25	25	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	09/10/12	09/11/12	EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³
Zinc	< 20	20	ug/l	1	09/07/12	09/10/12	EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14696

(2) Instrument QC Batch: MA14700

(3) Prep QC Batch: MP19630

(4) Prep QC Batch: MP19637

RL = Reporting Limit

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- RCP Form
- Sample Tracking Chronicle

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL: 508-481-6200 FAX: 508-481-7753
www.accutest.com

ACCTEST LABORATORIES		Accutest Laboratories of New England 495 Technology Center West, Building One TEL. 508-481-6200 FAX: 508-481-7753 www.acctest.com		FED-EX Tracking # _____ Bottle Order Control # _____			
				FDI/2012-217			
				MC13777			
Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)			
Company Name Loureiro Engineering Assoc		Project Name Willow Brook Gwm		<div style="float: right; width: 100px; text-align: right;">Matrix Codes</div> <div style="clear: both;"></div> <div style="font-size: x-small;"> DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED-Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB-Field Blank EB-Equipment Blank RB-Rinse Blank TB-Trip Blank </div>			
Street Address 100 Northwest Dr.		Billing Information (If different from Report to) Company Name _____					
City State Zip Plainville CT		Street Address _____					
E-mail _____		City State Zip Same					
Phone # 860-747-3000		Attention: _____ PO# _____					
Sampler(s) Name(s) J Carroon Sam Rooney		Project Manager _____					
Accutest Sample # Field ID / Point of Collection		MEOH/DI Vol # Date Time Sampled by Matrix # of bottles		Number of preserved Bottles <small>HCl NH₄OH HNO₃ H₂SO₄ H₂O₂ DI Water MCH OH EDCORE Burette</small>			
				LAB USE ONLY			
-1	1264979	9/6/12	10:46 JC	6w	7 2	X X X X X	
-2	1264979 UF		10:46 JC		1	X X X X X	
-3	1264991		10:46 JC		7 2	X X X X X	
-4	1264991 UF		10:46 JC		1	X X X X X	
-5	1264990		10:51 JC		1 1	X X X X X	
-6	1264980		13:36 JC		7 2	X X X X X	
-7	1264980 UF		13:36 JC		1	X X X X X	
-8	1264889		15:30 JC		7 2	X X X X X	
-9	1264889 UF		15:30 JC		1	X X X X X	
-10	1264977		12:35 SR		7 2	X X X X X	
-11	1264977 UF		12:35 SR		1	X X X X X	
-12	1264981		15:16 JC	V	26 2	X X X X X	
Turnaround Time (Business days) <input checked="" type="checkbox"/> Std. 10 Business Days <input type="checkbox"/> Std. 5 Business Days (By Contract only) <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY		Approved By (Accutest PM): / Date: _____ _____ _____ _____ _____		<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> FULLT1 (Level 3+4) <input checked="" type="checkbox"/> CT RCP <input type="checkbox"/> MA MCP <input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format <input type="checkbox"/> Other _____ <small>Commercial "A" = Results Only Commercial "B" = Results + QC Summary</small>			
Emergency & Rush T/A data available VIA Lablink		Sample Custody must be documented below each time samples change possession, including courier delivery.		Comments / Special Instructions <div style="font-size: large; padding-top: 10px;">Please Provide CT RCP Report For vocs and PCBs and CT RCP Analysis lists</div>			
Relinquished by Sampler: Signature: <i>[Signature]</i> Date/Time: 9/6/12 1620		Received By: Signature: <i>[Signature]</i> Date/Time: 9-6-12 1830		Relinquished by Sampler: Signature: <i>[Signature]</i> Date/Time: 9-6-12 1830			
Relinquished by: Signature: <i>[Signature]</i> Date/Time: 9-6-12 1830		Received By: Signature: <i>[Signature]</i> Date/Time: 9-6-12 1830		Relinquished by: Signature: <i>[Signature]</i> Date/Time: 9-6-12 1830			
Custody Seal # <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Preserved where applicable <input type="checkbox"/> On Ice <input type="checkbox"/> Cooler Temp. _____		Other <input type="checkbox"/> _____			

MC13777: Chain of Custody

Page 1 of 3

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC13777

Client: LEA

Immediate Client Services Action Required: No

Date / Time Received: 9/6/2012

Delivery Method:

Client Service Action Required at Login: No

Project: WILLOW BROOK GWM

No. Coolers:

2

Airbill #'s:

Cooler Security

Y or N

Y or N

- | | | | | | |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Cooler Temperature

Y or N

- | | | |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Cooler temp verification: | Infrared gun | |
| 3. Cooler media: | Ice (bag) | |

Quality Control Preservation

Y or N

N/A

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Samples preserved properly: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. VOCs headspace free: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Sample Integrity - Documentation

Y or N

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Sample Integrity - Condition

Y or N

- | | | |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of sample: | Intact | |

Sample Integrity - Instructions

Y or N N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3. Sufficient volume recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. Compositing instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Laboratory Name: Accutest New England Client: Loureiro Eng. Associates

Project Location: PWCTEH:Willow Brook - Pond W. East Hartford Project Number:

Sampling Date(s): 9/6/2012

Laboratory Sample ID(s): MC13777-1, MC13777-2, MC13777-3, MC13777-4, MC13777-5, MC13777-6, MC13777-7, MC13777-8, MC13777-9, MC13777-10, MC13777-11, MC13777-12, MC13777-13, MC13777-14, MC13777-15, MC13777-16, MC13777-17

Methods: CT-ETPH 7/06, SW846 6010C, SW846 7470A, SW846 8082, SW846 8260B

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1A	Where all the method specified preservation and holding time requirements met?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1B	VPH and EPH mehdods only: Was the VPH or EPH method conducted without significant modifications (See section 11.3 of respective methods)	Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
3	Were samples received at an appropriate temperature (<6° C)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
5	a) Were reporting limits specified or referenced on the chain-of-custody?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	b) Were these reporting limits met?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence".

I, the undersigned, attest under pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized

Signature: 

Position: Lab Director

Printed Name: Reza Tand
Accutest New England

Date: 9/21/2012

Internal Sample Tracking Chronicle

Loureiro Eng. Associates

Job No: MC13777

PWCTEH: Willow Brook - Pond W. East Hartford
Project No: 88UT059

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC13777-1 Collected: 06-SEP-12 10:46 By: JCSR Received: 06-SEP-12 By: 1264979						
MC13777-1	CT-ETPH 7/06	10-SEP-12 22:49	KN	08-SEP-12	MEW	BCTTPH
MC13777-1	SW846 8082	13-SEP-12 15:08	AP	08-SEP-12	PA	P8082RCP
MC13777-1	SW846 8260B	17-SEP-12 11:58	JM			V8260RCP
MC13777-2 Collected: 06-SEP-12 10:46 By: JCSR Received: 06-SEP-12 By: 1264979UF						
MC13777-2	SW846 6010C	10-SEP-12 13:33	EAL	07-SEP-12	DA	AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC13777-2	SW846 7470A	11-SEP-12 11:22	EM	10-SEP-12	EM	HG
MC13777-3 Collected: 06-SEP-12 10:46 By: JCSR Received: 06-SEP-12 By: 1264991						
MC13777-3	CT-ETPH 7/06	10-SEP-12 23:21	KN	08-SEP-12	MEW	BCTTPH
MC13777-3	SW846 8082	13-SEP-12 15:27	AP	08-SEP-12	PA	P8082RCP
MC13777-3	SW846 8260B	17-SEP-12 14:53	JM			V8260RCP
MC13777-4 Collected: 06-SEP-12 10:46 By: JCSR Received: 06-SEP-12 By: 1264991UF						
MC13777-4	SW846 6010C	10-SEP-12 13:38	EAL	07-SEP-12	DA	AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC13777-4	SW846 7470A	11-SEP-12 11:24	EM	10-SEP-12	EM	HG
MC13777-5 Collected: 06-SEP-12 10:51 By: JCSR Received: 06-SEP-12 By: 1264990						
MC13777-5	SW846 8260B	17-SEP-12 11:29	JM			V8260RCP
MC13777-6 Collected: 06-SEP-12 13:36 By: JCSR Received: 06-SEP-12 By: 1264980						
MC13777-6	CT-ETPH 7/06	10-SEP-12 21:13	KN	08-SEP-12	MEW	BCTTPH
MC13777-6	SW846 8082	13-SEP-12 15:46	AP	08-SEP-12	PA	P8082RCP
MC13777-6	SW846 8260B	14-SEP-12 20:20	TT			V8260RCP
MC13777-6	SW846 8260B	17-SEP-12 15:23	JM			V8260RCP

Internal Sample Tracking Chronicle

Loureiro Eng. Associates

Job No: MC13777

PWCTEH: Willow Brook - Pond W. East Hartford
Project No: 88UT059

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC13777-7 Collected: 06-SEP-12 13:36 By: JCSR Received: 06-SEP-12 By: 1264980UF						
MC13777-7	SW846 6010C	10-SEP-12 13:43	EAL	07-SEP-12	DA	AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC13777-7	SW846 7470A	11-SEP-12 10:59	EM	10-SEP-12	EM	HG
MC13777-8 Collected: 06-SEP-12 15:30 By: JCSR Received: 06-SEP-12 By: 1264889						
MC13777-8	CT-ETPH 7/06	10-SEP-12 21:45	KN	08-SEP-12	MEW	BCTTPH
MC13777-8	SW846 8082	13-SEP-12 16:05	AP	08-SEP-12	PA	P8082RCP
MC13777-8	SW846 8260B	17-SEP-12 12:27	JM			V8260RCP
MC13777-9 Collected: 06-SEP-12 15:30 By: JCSR Received: 06-SEP-12 By: 1264889UF						
MC13777-9	SW846 6010C	10-SEP-12 13:48	EAL	07-SEP-12	DA	AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC13777-9	SW846 7470A	11-SEP-12 11:27	EM	10-SEP-12	EM	HG
MC13777-10 Collected: 06-SEP-12 12:35 By: JCSR Received: 06-SEP-12 By: 1264977						
MC13777-10	CT-ETPH 7/06	11-SEP-12 08:53	KN	08-SEP-12	MEW	BCTTPH
MC13777-10	SW846 8082	13-SEP-12 16:24	AP	08-SEP-12	PA	P8082RCP
MC13777-10	SW846 8260B	17-SEP-12 12:55	JM			V8260RCP
MC13777-11 Collected: 06-SEP-12 12:35 By: JCSR Received: 06-SEP-12 By: 1264977UF						
MC13777-11	SW846 6010C	10-SEP-12 13:53	EAL	07-SEP-12	DA	AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC13777-11	SW846 7470A	11-SEP-12 11:29	EM	10-SEP-12	EM	HG
MC13777-12 Collected: 06-SEP-12 15:16 By: JCSR Received: 06-SEP-12 By: 1264981						
MC13777-12	CT-ETPH 7/06	11-SEP-12 06:46	KN	08-SEP-12	MEW	BCTTPH

Internal Sample Tracking Chronicle

Loureiro Eng. Associates

Job No: MC13777

PWCTEH: Willow Brook - Pond W. East Hartford
Project No: 88UT059

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC13777-12SW846 8082		13-SEP-12 16:43	AP	08-SEP-12	PA	P8082RCP
MC13777-12SW846 8260B		17-SEP-12 14:22	JM			V8260RCP
MC13777-13Collected: 06-SEP-12 15:16 By: JCSR Received: 06-SEP-12 By: 1264981UF						
MC13777-13SW846 6010C		10-SEP-12 13:58	EAL	07-SEP-12	DA	AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC13777-13SW846 7470A		11-SEP-12 11:32	EM	10-SEP-12	EM	HG
MC13777-14Collected: 06-SEP-12 15:05 By: JCSR Received: 06-SEP-12 By: 1264978						
MC13777-14CT-ETPH 7/06		11-SEP-12 06:14	KN	08-SEP-12	MEW	BCTTPH
MC13777-14SW846 8082		13-SEP-12 17:02	AP	08-SEP-12	PA	P8082RCP
MC13777-14SW846 8260B		17-SEP-12 13:24	JM			V8260RCP
MC13777-15Collected: 06-SEP-12 15:05 By: JCSR Received: 06-SEP-12 By: 1264978UF						
MC13777-15SW846 6010C		10-SEP-12 13:03	EAL	07-SEP-12	DA	AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC13777-15SW846 7470A		11-SEP-12 11:34	EM	10-SEP-12	EM	HG
MC13777-16Collected: 06-SEP-12 10:35 By: JCSR Received: 06-SEP-12 By: 1264976						
MC13777-16CT-ETPH 7/06		11-SEP-12 05:43	KN	08-SEP-12	MEW	BCTTPH
MC13777-16SW846 8082		13-SEP-12 17:21	AP	08-SEP-12	PA	P8082RCP
MC13777-16SW846 8260B		17-SEP-12 13:53	JM			V8260RCP
MC13777-17Collected: 06-SEP-12 10:35 By: JCSR Received: 06-SEP-12 By: 1264976UF						
MC13777-17SW846 6010C		10-SEP-12 14:03	EAL	07-SEP-12	DA	AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC13777-17SW846 7470A		11-SEP-12 11:37	EM	10-SEP-12	EM	HG

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Page 1 of 3

Job Number: MC13777**Account:** LEA Loureiro Eng. Associates**Project:** PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2106-MB	P64518.D	1	09/14/12	TT	n/a	n/a	MSP2106

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC13777-6

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	5.2	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	

Method Blank Summary

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Job Number: MC13777

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2106-MB	P64518.D	1	09/14/12	TT	n/a	n/a	MSP2106

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13777-6

CAS No.	Compound	Result	RL	Units	Q
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	11.1	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	103% 70-130%

Method Blank Summary

Job Number: MC13777
Account: LEA Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2106-MB	P64518.D	1	09/14/12	TT	n/a	n/a	MSP2106

The QC reported here applies to the following samples: Method: SW846 8260B

MC13777-6

CAS No.	Surrogate Recoveries	Limits
2037-26-5	Toluene-D8	97% 70-130%
460-00-4	4-Bromofluorobenzene	116% 70-130%

Method Blank Summary

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Job Number: MC13777

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL3186-MB	L66880.D	1	09/17/12	JM	n/a	n/a	MSL3186

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13777-1, MC13777-3, MC13777-5, MC13777-6, MC13777-8, MC13777-10, MC13777-12, MC13777-14, MC13777-16

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	

Method Blank Summary

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Job Number: MC13777**Account:** LEA Loureiro Eng. Associates**Project:** PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL3186-MB	L66880.D	1	09/17/12	JM	n/a	n/a	MSL3186

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC13777-1, MC13777-3, MC13777-5, MC13777-6, MC13777-8, MC13777-10, MC13777-12, MC13777-14, MC13777-16

CAS No.	Compound	Result	RL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

Method Blank Summary

Job Number: MC13777
Account: LEA Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL3186-MB	L66880.D	1	09/17/12	JM	n/a	n/a	MSL3186

The QC reported here applies to the following samples: Method: SW846 8260B

MC13777-1, MC13777-3, MC13777-5, MC13777-6, MC13777-8, MC13777-10, MC13777-12, MC13777-14, MC13777-16

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	80% 70-130%
2037-26-5	Toluene-D8	86% 70-130%
460-00-4	4-Bromofluorobenzene	83% 70-130%

Blank Spike Summary

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Job Number: MC13777

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2106-BS	P64515.D	1	09/14/12	TT	n/a	n/a	MSP2106

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13777-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	74.4	149* a	70-130
107-13-1	Acrylonitrile	50	46.3	93	70-130
71-43-2	Benzene	50	45.5	91	70-130
108-86-1	Bromobenzene	50	51.3	103	70-130
75-27-4	Bromodichloromethane	50	51.5	103	70-130
75-25-2	Bromoform	50	40.4	81	70-130
74-83-9	Bromomethane	50	52.5	105	70-130
78-93-3	2-Butanone (MEK)	50	61.1	122	70-130
104-51-8	n-Butylbenzene	50	56.1	112	70-130
135-98-8	sec-Butylbenzene	50	57.8	116	70-130
98-06-6	tert-Butylbenzene	50	56.3	113	70-130
75-15-0	Carbon disulfide	50	50.3	101	70-130
56-23-5	Carbon tetrachloride	50	55.2	110	70-130
108-90-7	Chlorobenzene	50	53.9	108	70-130
75-00-3	Chloroethane	50	53.0	106	70-130
67-66-3	Chloroform	50	49.9	100	70-130
74-87-3	Chloromethane	50	53.4	107	70-130
95-49-8	o-Chlorotoluene	50	53.1	106	70-130
106-43-4	p-Chlorotoluene	50	57.4	115	70-130
96-12-8	1,2-Dibromo-3-chloropropane	50	59.4	119	70-130
124-48-1	Dibromochloromethane	50	50.3	101	70-130
106-93-4	1,2-Dibromoethane	50	52.8	106	70-130
95-50-1	1,2-Dichlorobenzene	50	55.2	110	70-130
541-73-1	1,3-Dichlorobenzene	50	55.8	112	70-130
106-46-7	1,4-Dichlorobenzene	50	51.2	102	70-130
75-71-8	Dichlorodifluoromethane	50	62.0	124	70-130
75-34-3	1,1-Dichloroethane	50	47.9	96	70-130
107-06-2	1,2-Dichloroethane	50	48.8	98	70-130
75-35-4	1,1-Dichloroethene	50	54.3	109	70-130
156-60-5	trans-1,2-Dichloroethene	50	43.5	87	70-130
78-87-5	1,2-Dichloropropane	50	48.2	96	70-130
142-28-9	1,3-Dichloropropane	50	44.4	89	70-130
594-20-7	2,2-Dichloropropane	50	40.1	80	70-130
563-58-6	1,1-Dichloropropene	50	53.1	106	70-130
10061-01-5	cis-1,3-Dichloropropene	50	44.8	90	70-130
10061-02-6	trans-1,3-Dichloropropene	50	44.2	88	70-130

* = Outside of Control Limits.

Blank Spike Summary

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Job Number: MC13777

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2106-BS	P64515.D	1	09/14/12	TT	n/a	n/a	MSP2106

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13777-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
100-41-4	Ethylbenzene	50	51.3	103	70-130
76-13-1	Freon 113	50	53.2	106	70-130
87-68-3	Hexachlorobutadiene	50	55.3	111	70-130
591-78-6	2-Hexanone	50	69.2	138* a	70-130
98-82-8	Isopropylbenzene	50	57.6	115	70-130
99-87-6	p-Isopropyltoluene	50	57.6	115	70-130
1634-04-4	Methyl Tert Butyl Ether	50	42.1	84	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	54.8	110	70-130
74-95-3	Methylene bromide	50	50.5	101	70-130
75-09-2	Methylene chloride	50	44.9	90	70-130
91-20-3	Naphthalene	50	64.0	128	70-130
103-65-1	n-Propylbenzene	50	55.8	112	70-130
100-42-5	Styrene	50	50.6	101	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	52.6	105	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	51.6	103	70-130
127-18-4	Tetrachloroethene	50	54.9	110	70-130
109-99-9	Tetrahydrofuran	50	45.0	90	70-130
108-88-3	Toluene	50	46.5	93	70-130
110-57-6	Trans-1,4-Dichloro-2-Butene	50	56.5	113	70-130
87-61-6	1,2,3-Trichlorobenzene	50	62.8	126	70-130
120-82-1	1,2,4-Trichlorobenzene	50	55.0	110	70-130
71-55-6	1,1,1-Trichloroethane	50	48.6	97	70-130
79-00-5	1,1,2-Trichloroethane	50	41.5	83	70-130
79-01-6	Trichloroethene	50	49.5	99	70-130
75-69-4	Trichlorofluoromethane	50	55.9	112	70-130
96-18-4	1,2,3-Trichloropropane	50	53.1	106	70-130
95-63-6	1,2,4-Trimethylbenzene	50	51.2	102	70-130
108-67-8	1,3,5-Trimethylbenzene	50	52.0	104	70-130
75-01-4	Vinyl chloride	50	55.8	112	70-130
	m,p-Xylene	100	103	103	70-130
95-47-6	o-Xylene	50	54.0	108	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	70-130%

* = Outside of Control Limits.

Blank Spike Summary

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Job Number: MC13777

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2106-BS	P64515.D	1	09/14/12	TT	n/a	n/a	MSP2106

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13777-6

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	95%	70-130%
460-00-4	4-Bromofluorobenzene	106%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 3

Job Number: MC13777**Account:** LEA Loureiro Eng. Associates**Project:** PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL3186-BS	L66877.D	1	09/17/12	JM	n/a	n/a	MSL3186

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC13777-1, MC13777-3, MC13777-5, MC13777-6, MC13777-8, MC13777-10, MC13777-12, MC13777-14, MC13777-16

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	66.8	134* a	70-130
107-13-1	Acrylonitrile	50	53.9	108	70-130
71-43-2	Benzene	50	49.2	98	70-130
108-86-1	Bromobenzene	50	47.3	95	70-130
75-27-4	Bromodichloromethane	50	53.8	108	70-130
75-25-2	Bromoform	50	53.0	106	70-130
74-83-9	Bromomethane	50	29.5	59* a	70-130
78-93-3	2-Butanone (MEK)	50	52.4	105	70-130
104-51-8	n-Butylbenzene	50	47.2	94	70-130
135-98-8	sec-Butylbenzene	50	52.4	105	70-130
98-06-6	tert-Butylbenzene	50	49.1	98	70-130
75-15-0	Carbon disulfide	50	54.0	108	70-130
56-23-5	Carbon tetrachloride	50	50.5	101	70-130
108-90-7	Chlorobenzene	50	51.5	103	70-130
75-00-3	Chloroethane	50	41.8	84	70-130
67-66-3	Chloroform	50	46.2	92	70-130
74-87-3	Chloromethane	50	42.0	84	70-130
95-49-8	o-Chlorotoluene	50	49.4	99	70-130
106-43-4	p-Chlorotoluene	50	52.1	104	70-130
96-12-8	1,2-Dibromo-3-chloropropane	50	48.1	96	70-130
124-48-1	Dibromochloromethane	50	50.0	100	70-130
106-93-4	1,2-Dibromoethane	50	47.1	94	70-130
95-50-1	1,2-Dichlorobenzene	50	53.2	106	70-130
541-73-1	1,3-Dichlorobenzene	50	53.4	107	70-130
106-46-7	1,4-Dichlorobenzene	50	47.5	95	70-130
75-71-8	Dichlorodifluoromethane	50	45.5	91	70-130
75-34-3	1,1-Dichloroethane	50	51.9	104	70-130
107-06-2	1,2-Dichloroethane	50	50.5	101	70-130
75-35-4	1,1-Dichloroethene	50	47.1	94	70-130
156-59-2	cis-1,2-Dichloroethene	50	44.6	89	70-130
156-60-5	trans-1,2-Dichloroethene	50	45.4	91	70-130
78-87-5	1,2-Dichloropropane	50	51.7	103	70-130
142-28-9	1,3-Dichloropropane	50	49.5	99	70-130
594-20-7	2,2-Dichloropropane	50	57.2	114	70-130
563-58-6	1,1-Dichloropropene	50	49.1	98	70-130
10061-01-5	cis-1,3-Dichloropropene	50	45.7	91	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC13777**Account:** LEA Loureiro Eng. Associates**Project:** PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL3186-BS	L66877.D	1	09/17/12	JM	n/a	n/a	MSL3186

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC13777-1, MC13777-3, MC13777-5, MC13777-6, MC13777-8, MC13777-10, MC13777-12, MC13777-14, MC13777-16

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	48.2	96	70-130
100-41-4	Ethylbenzene	50	47.9	96	70-130
76-13-1	Freon 113	50	47.5	95	70-130
87-68-3	Hexachlorobutadiene	50	54.6	109	70-130
591-78-6	2-Hexanone	50	61.8	124	70-130
98-82-8	Isopropylbenzene	50	50.4	101	70-130
99-87-6	p-Isopropyltoluene	50	51.4	103	70-130
1634-04-4	Methyl Tert Butyl Ether	50	44.1	88	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	52.7	105	70-130
74-95-3	Methylene bromide	50	47.7	95	70-130
75-09-2	Methylene chloride	50	46.5	93	70-130
91-20-3	Naphthalene	50	40.6	81	70-130
103-65-1	n-Propylbenzene	50	50.3	101	70-130
100-42-5	Styrene	50	47.7	95	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	54.7	109	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	46.6	93	70-130
127-18-4	Tetrachloroethene	50	53.5	107	70-130
109-99-9	Tetrahydrofuran	50	44.3	89	70-130
108-88-3	Toluene	50	49.6	99	70-130
110-57-6	Trans-1,4-Dichloro-2-Butene	50	60.5	121	70-130
87-61-6	1,2,3-Trichlorobenzene	50	48.3	97	70-130
120-82-1	1,2,4-Trichlorobenzene	50	49.2	98	70-130
71-55-6	1,1,1-Trichloroethane	50	45.6	91	70-130
79-00-5	1,1,2-Trichloroethane	50	49.1	98	70-130
79-01-6	Trichloroethene	50	47.4	95	70-130
75-69-4	Trichlorofluoromethane	50	37.8	76	70-130
96-18-4	1,2,3-Trichloropropane	50	49.3	99	70-130
95-63-6	1,2,4-Trimethylbenzene	50	46.4	93	70-130
108-67-8	1,3,5-Trimethylbenzene	50	46.0	92	70-130
75-01-4	Vinyl chloride	50	44.3	89	70-130
	m,p-Xylene	100	98.7	99	70-130
95-47-6	o-Xylene	50	53.5	107	70-130

* = Outside of Control Limits.

Blank Spike Summary

Page 3 of 3

Job Number: MC13777

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL3186-BS	L66877.D	1	09/17/12	JM	n/a	n/a	MSL3186

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13777-1, MC13777-3, MC13777-5, MC13777-6, MC13777-8, MC13777-10, MC13777-12, MC13777-14, MC13777-16

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	75%	70-130%
2037-26-5	Toluene-D8	85%	70-130%
460-00-4	4-Bromofluorobenzene	81%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 3

Job Number: MC13777

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC13777-1MS	L66900.D	5	09/17/12	JM	n/a	n/a	MSL3186
MC13777-1MSD	L66901.D	5	09/17/12	JM	n/a	n/a	MSL3186
MC13777-1	L66883.D	1	09/17/12	JM	n/a	n/a	MSL3186

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13777-1, MC13777-3, MC13777-5, MC13777-6, MC13777-8, MC13777-10, MC13777-12, MC13777-14, MC13777-16

CAS No.	Compound	MC13777-1 ug/l	Spike Q	ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	505	202* a	390	156* a	26	70-130/30
107-13-1	Acrylonitrile	ND		250	299	120	318	127	6	70-130/30
71-43-2	Benzene	ND		250	262	105	260	104	1	70-130/30
108-86-1	Bromobenzene	ND		250	238	95	247	99	4	70-130/30
75-27-4	Bromodichloromethane	ND		250	290	116	289	116	0	70-130/30
75-25-2	Bromoform	ND		250	282	113	287	115	2	70-130/30
74-83-9	Bromomethane	ND		250	92.7	37* a	131	52* a	34* a	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	245	98	240	96	2	70-130/30
104-51-8	n-Butylbenzene	ND		250	234	94	235	94	0	70-130/30
135-98-8	sec-Butylbenzene	ND		250	261	104	270	108	3	70-130/30
98-06-6	tert-Butylbenzene	ND		250	246	98	250	100	2	70-130/30
75-15-0	Carbon disulfide	ND		250	293	117	294	118	0	70-130/30
56-23-5	Carbon tetrachloride	ND		250	261	104	262	105	0	70-130/30
108-90-7	Chlorobenzene	ND		250	272	109	272	109	0	70-130/30
75-00-3	Chloroethane	12.0		250	227	86	232	88	2	70-130/30
67-66-3	Chloroform	1.5		250	250	99	255	101	2	70-130/30
74-87-3	Chloromethane	ND		250	185	74	215	86	15	70-130/30
95-49-8	o-Chlorotoluene	ND		250	255	102	257	103	1	70-130/30
106-43-4	p-Chlorotoluene	ND		250	265	106	266	106	0	70-130/30
96-12-8	1,2-Dibromo-3-chloropropane	ND		250	263	105	275	110	4	70-130/30
124-48-1	Dibromochloromethane	ND		250	266	106	269	108	1	70-130/30
106-93-4	1,2-Dibromoethane	ND		250	255	102	258	103	1	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	267	107	277	111	4	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	268	107	277	111	3	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	239	96	243	97	2	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	238	95	237	95	0	70-130/30
75-34-3	1,1-Dichloroethane	8.0		250	283	110	286	111	1	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	275	110	277	111	1	70-130/30
75-35-4	1,1-Dichloroethene	74.8		250	273	79	273	79	0	70-130/30
156-59-2	cis-1,2-Dichloroethene	60.9		250	273	85	278	87	2	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	243	97	249	100	2	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	277	111	276	110	0	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	266	106	269	108	1	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	273	109	280	112	3	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	257	103	259	104	1	70-130/30
10061-01-5	cis-1,3-Dichloropropene	ND		250	233	93	240	96	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 2 of 3

Job Number: MC13777

Account: LEA Loureiro Eng. Associates

Project: PWCTEH:Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC13777-1MS	L66900.D	5	09/17/12	JM	n/a	n/a	MSL3186
MC13777-1MSD	L66901.D	5	09/17/12	JM	n/a	n/a	MSL3186
MC13777-1	L66883.D	1	09/17/12	JM	n/a	n/a	MSL3186

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13777-1, MC13777-3, MC13777-5, MC13777-6, MC13777-8, MC13777-10, MC13777-12, MC13777-14, MC13777-16

CAS No.	Compound	MC13777-1 ug/l	Spike Q	ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		250	247	99	256	102	4	70-130/30
100-41-4	Ethylbenzene	ND		250	250	100	247	99	1	70-130/30
76-13-1	Freon 113	ND		250	249	100	250	100	0	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	270	108	278	111	3	70-130/30
591-78-6	2-Hexanone	ND		250	291	116	300	120	3	70-130/30
98-82-8	Isopropylbenzene	ND		250	254	102	259	104	2	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	255	102	260	104	2	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	238	95	254	102	7	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	305	122	316	126	4	70-130/30
74-95-3	Methylene bromide	ND		250	259	104	259	104	0	70-130/30
75-09-2	Methylene chloride	ND		250	253	101	259	104	2	70-130/30
91-20-3	Naphthalene	ND		250	214	86	226	90	5	70-130/30
103-65-1	n-Propylbenzene	ND		250	254	102	257	103	1	70-130/30
100-42-5	Styrene	ND		250	248	99	246	98	1	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	288	115	291	116	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	254	102	265	106	4	70-130/30
127-18-4	Tetrachloroethene	27.6		250	275	99	276	99	0	70-130/30
109-99-9	Tetrahydrofuran	56.1		250	315	104	356	120	12	70-130/30
108-88-3	Toluene	ND		250	263	105	260	104	1	70-130/30
110-57-6	Trans-1,4-Dichloro-2-Butene	ND		250	322	129	324	130	1	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	250	100	260	104	4	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	246	98	253	101	3	70-130/30
71-55-6	1,1,1-Trichloroethane	17.8		250	251	93	250	93	0	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	263	105	273	109	4	70-130/30
79-01-6	Trichloroethene	199		250	307	43* b	305	42* b	1	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	204	82	203	81	0	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	265	106	273	109	3	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	230	92	237	95	3	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	231	92	231	92	0	70-130/30
75-01-4	Vinyl chloride	11.3		250	246	94	249	95	1	70-130/30
	m,p-Xylene	ND		500	525	105	521	104	1	70-130/30
95-47-6	o-Xylene	ND		250	284	114	282	113	1	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 3 of 3

Job Number: MC13777

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC13777-1MS	L66900.D	5	09/17/12	JM	n/a	n/a	MSL3186
MC13777-1MSD	L66901.D	5	09/17/12	JM	n/a	n/a	MSL3186
MC13777-1	L66883.D	1	09/17/12	JM	n/a	n/a	MSL3186

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13777-1, MC13777-3, MC13777-5, MC13777-6, MC13777-8, MC13777-10, MC13777-12, MC13777-14, MC13777-16

CAS No.	Surrogate Recoveries	MS	MSD	MC13777-1	Limits
1868-53-7	Dibromofluoromethane	84%	87%	84%	70-130%
2037-26-5	Toluene-D8	92%	92%	90%	70-130%
460-00-4	4-Bromofluorobenzene	86%	88%	88%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

(b) Outside control limits due to possible matrix interference. Refer to Blank Spike.

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: MC13777
Account: LEA Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

Check Std: MSL3186-CC3152
Lab File ID: L66877.D
Instrument ID: GCMSL
Injection Date: 09/17/12
Injection Time: 09:05
Method: SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	202565	8.17	285426	9.00	155491	12.23	154113	14.79	62169	5.81
Upper Limit ^a	405130	8.67	570852	9.50	310982	12.73	308226	15.29	124338	6.31
Lower Limit ^b	101283	7.67	142713	8.50	77746	11.73	77057	14.29	31085	5.31

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSL3186-BS	202565	8.17	285426	9.00	155491	12.23	154113	14.79	62169	5.81
MSL3186-MB	202410	8.17	284297	9.00	149021	12.24	144224	14.80	66869	5.81
MC13777-5	189493	8.17	265553	9.00	141686	12.24	138412	14.80	66777	5.85
MC13777-1	191977	8.17	271339	9.00	140349	12.24	135580	14.80	68871	5.81
MC13777-8	190358	8.17	273064	9.00	142899	12.24	136665	14.80	56078	5.82
MC13777-10	191324	8.17	270103	9.00	141567	12.24	136380	14.80	69685	5.81
MC13777-14	190443	8.17	273525	9.00	142703	12.24	138989	14.80	63260	5.81
MC13777-16	187532	8.17	269835	9.00	143119	12.24	140914	14.79	66894	5.85
MC13777-12	190528	8.17	270883	9.00	141334	12.24	136607	14.80	68521	5.81
MC13777-3	226813	8.17	320141	9.00	165861	12.24	158113	14.80	79409	5.81
MC13777-6	224761	8.17	320528	9.00	167352	12.24	157099	14.80	84516	5.81
ZZZZZZ	191178	8.17	271624	9.00	143585	12.24	137158	14.80	55882	5.81
ZZZZZZ	191113	8.17	276349	9.00	146239	12.24	137997	14.80	58394	5.81
ZZZZZZ	189255	8.17	272106	9.00	146585	12.24	137799	14.80	68054	5.81
ZZZZZZ	193420	8.17	278838	9.00	147104	12.24	143119	14.80	65798	5.81
ZZZZZZ	187145	8.17	268492	9.00	142990	12.24	136275	14.80	57232	5.81
ZZZZZZ	187373	8.17	269047	9.00	142175	12.24	134949	14.80	64362	5.81
ZZZZZZ	183789	8.17	260544	9.00	139117	12.23	145347	14.79	57424	5.80
ZZZZZZ	181735	8.17	258213	9.00	136950	12.24	131255	14.80	57941	5.81
MC13777-1MS	187442	8.17	266916	9.00	145828	12.23	148892	14.79	68456	5.81
MC13777-1MSD	182491	8.17	262865	9.00	144496	12.23	144698	14.79	70454	5.81

IS 1 = Pentafluorobenzene
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5
IS 4 = 1,4-Dichlorobenzene-d4
IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: MC13777

Account: LEA Loureiro Eng. Associates

Project: PWCTEH:Willow Brook - Pond W. East Hartford

Check Std: MSP2106-CC2106

Injection Date: 09/14/12

Lab File ID: P64515.D

Injection Time: 14:20

Instrument ID: GCMSP

Method: SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	548312	8.25	904944	9.09	454669	12.31	392353	14.87	207132	5.94
Upper Limit ^a	1096624	8.75	1809888	9.59	909338	12.81	784706	15.37	414264	6.44
Lower Limit ^b	274156	7.75	452472	8.59	227335	11.81	196177	14.37	103566	5.44

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
MSP2106-BS	548312	8.25	904944	9.09	454669	12.31	392353	14.87	207132	5.94
MSP2106-MB	677536	8.26	1201849	9.10	599419	12.31	478385	14.87	194217	5.96
MC13755-2A	682322	8.26	1086978	9.10	527284	12.31	446982	14.87	174495	5.96
MC13755-3A	627490	8.25	840036	9.10	566588	12.31	488542	14.87	188236	5.95
ZZZZZZ	687854	8.25	1154604	9.10	572174	12.31	389454	14.87	185235	5.96
ZZZZZZ	649299	8.26	1002811	9.10	557582	12.31	434782	14.87	169983	5.96
ZZZZZZ	595474	8.25	1089024	9.10	544083	12.31	456964	14.87	187696	5.95
ZZZZZZ	552549	8.25	1110317	9.09	566637	12.31	447775	14.87	147597	5.95
MC13777-6	433715	8.25	717038	9.10	344409	12.31	421693	14.87	137387	5.96
MC13755-2AMS	551744	8.25	844940	9.10	573848	12.31	519024	14.87	211852	5.94
MC13755-2AMSD463634		8.25	867145	9.10	563056	12.31	484993	14.87	152402	5.93
MC13755-3AMS	466919	8.25	887019	9.10	532825	12.31	496740	14.87	152194	5.93
MC13755-3AMSD444557		8.25	990661	9.09	553233	12.31	480320	14.87	152101	5.94

IS 1 = Pentafluorobenzene

IS 2 = 1,4-Difluorobenzene

IS 3 = Chlorobenzene-D5

IS 4 = 1,4-Dichlorobenzene-d4

IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Page 1 of 1

Job Number: MC13777

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Method: SW846 8260B

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC13777-1	L66883.D	84.0	90.0	88.0
MC13777-3	L66889.D	70.0	76.0	74.0
MC13777-5	L66882.D	83.0	91.0	86.0
MC13777-6	P64528.D	113.0	99.0	124.0
MC13777-6	L66890.D	69.0* a	74.0	72.0
MC13777-8	L66884.D	85.0	90.0	88.0
MC13777-10	L66885.D	83.0	88.0	85.0
MC13777-12	L66888.D	83.0	88.0	86.0
MC13777-14	L66886.D	85.0	89.0	86.0
MC13777-16	L66887.D	80.0	84.0	79.0
MC13777-1MS	L66900.D	84.0	92.0	86.0
MC13777-1MSD	L66901.D	87.0	92.0	88.0
MSL3186-BS	L66877.D	75.0	85.0	81.0
MSL3186-MB	L66880.D	80.0	86.0	83.0
MSP2106-BS	P64515.D	101.0	95.0	106.0
MSP2106-MB	P64518.D	103.0	97.0	116.0

Surrogate Compounds

Recovery Limits

S1 = Dibromofluoromethane

70-130%

S2 = Toluene-D8

70-130%

S3 = 4-Bromofluorobenzene

70-130%

(a) Outside control limits due to possible matrix interference.

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC13777
Account: LEA Loureiro Eng. Associates
Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30303-MB	BC645188.D	1	09/10/12	KN	09/08/12	OP30303	GBC3114

The QC reported here applies to the following samples: Method: CT-ETPH 7/06

MC13777-1, MC13777-3, MC13777-6, MC13777-8, MC13777-10, MC13777-12, MC13777-14, MC13777-16

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.080	mg/l	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	96% 50-149%

Method Blank Summary

Page 1 of 1

Job Number: MC13777

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30302-MB	BK16886.D	1	09/13/12	AP	09/08/12	OP30302	GBK633

The QC reported here applies to the following samples:

Method: SW846 8082

MC13777-1, MC13777-3, MC13777-6, MC13777-8, MC13777-10, MC13777-12, MC13777-14, MC13777-16

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.25	ug/l	
11141-16-5	Aroclor 1232	ND	0.25	ug/l	
53469-21-9	Aroclor 1242	ND	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.25	ug/l	
37324-23-5	Aroclor 1262	ND	0.25	ug/l	
11100-14-4	Aroclor 1268	ND	0.25	ug/l	

CAS No.	Surrogate Recoveries	Limits
877-09-8	Tetrachloro-m-xylene	103% 30-150%
877-09-8	Tetrachloro-m-xylene	85% 30-150%
2051-24-3	Decachlorobiphenyl	116% 30-150%
2051-24-3	Decachlorobiphenyl	89% 30-150%

Blank Spike Summary

Page 1 of 1

Job Number: MC13777

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30303-BS	BC645190.D	1	09/10/12	KN	09/08/12	OP30303	GBC3114

The QC reported here applies to the following samples:

Method: CT-ETPH 7/06

MC13777-1, MC13777-3, MC13777-6, MC13777-8, MC13777-10, MC13777-12, MC13777-14, MC13777-16

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	CT-ETPH (C9-C36)	0.7	0.470	67	60-120

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	87%	50-149%

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: MC13777

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30302-BS	BK16887.D	1	09/13/12	AP	09/08/12	OP30302	GBK633

The QC reported here applies to the following samples:

Method: SW846 8082

MC13777-1, MC13777-3, MC13777-6, MC13777-8, MC13777-10, MC13777-12, MC13777-14, MC13777-16

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
12674-11-2	Aroclor 1016	2	1.7	85	40-140
11104-28-2	Aroclor 1221		ND		40-140
11141-16-5	Aroclor 1232		ND		40-140
53469-21-9	Aroclor 1242		ND		40-140
12672-29-6	Aroclor 1248		ND		40-140
11097-69-1	Aroclor 1254		ND		40-140
11096-82-5	Aroclor 1260	2	1.6	80	40-140
37324-23-5	Aroclor 1262		ND		40-140
11100-14-4	Aroclor 1268		ND		40-140

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	92%	30-150%
877-09-8	Tetrachloro-m-xylene	77%	30-150%
2051-24-3	Decachlorobiphenyl	111%	30-150%
2051-24-3	Decachlorobiphenyl	85%	30-150%

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: MC13777
Account: LEA Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

Method: CT-ETPH 7/06	Matrix: AQ
----------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a
MC13777-1	BC645210.D	68.0
MC13777-3	BC645212.D	68.0
MC13777-6	BC645204.D	65.0
MC13777-8	BC645206.D	71.0
MC13777-10	BC645248.D	62.0
MC13777-12	BC645240.D	71.0
MC13777-14	BC645238.D	79.0
MC13777-16	BC645236.D	59.0
OP30303-BS	BC645190.D	87.0
OP30303-MB	BC645188.D	96.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	50-149%

(a) Recovery from GC signal #1

Semivolatile Surrogate Recovery Summary

Page 1 of 1

Job Number: MC13777

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Method: SW846 8082

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a	S1 ^b	S2 ^a	S2 ^b
MC13777-1	BK16902.D	88.0	57.0	69.0	45.0
MC13777-3	BK16903.D	80.0	51.0	68.0	43.0
MC13777-6	BK16904.D	73.0	48.0	60.0	39.0
MC13777-8	BK16905.D	73.0	50.0	48.0	32.0
MC13777-10	BK16906.D	66.0	40.0	53.0	36.0
MC13777-12	BK16907.D	79.0	51.0	86.0	57.0
MC13777-14	BK16908.D	72.0	48.0	62.0	41.0
MC13777-16	BK16909.D	64.0	46.0	72.0	49.0
OP30302-BS	BK16887.D	92.0	77.0	111.0	85.0
OP30302-MB	BK16886.D	103.0	85.0	116.0	89.0

Surrogate Compounds

Recovery Limits

S1 = Tetrachloro-m-xylene

30-150%

S2 = Decachlorobiphenyl

30-150%

(a) Recovery from GC signal #1

(b) Recovery from GC signal #2

7.3.2

7

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC13777
Account: LEA - Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19630
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/07/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	13	21		
Antimony	6.0	.8	1.7		
Arsenic	4.0	.99	1.9	-0.20	<4.0
Barium	50	.28	.65	0.10	<50
Beryllium	4.0	.13	.28		
Boron	100	.58	.59		
Cadmium	4.0	.19	.19	0.0	<4.0
Calcium	5000	34	36		
Chromium	10	.6	.83	0.10	<10
Cobalt	50	.15	.4		
Copper	25	.85	1.4	0.0	<25
Gold	50	1.8	2.7		
Iron	100	4.2	11		
Lead	5.0	1.3	2.1	-0.20	<5.0
Magnesium	5000	36	60		
Manganese	15	.05	.54		
Molybdenum	100	.23	1.5		
Nickel	40	.25	.7	0.10	<40
Palladium	50	2.4	7.9		
Platinum	50	6.6	19		
Potassium	5000	45	190		
Selenium	10	1.4	2	-0.20	<10
Silicon	100	4.8	8.4		
Silver	5.0	.69	1.3	-0.30	<5.0
Sodium	5000	13	40		
Strontium	10	.11	.35		
Thallium	5.0	.99	1.4		
Tin	100	.34	.75		
Titanium	50	.55	.88		
Tungsten	100	5.9	14		
Vanadium	10	.95	1.3		
Zinc	20	.33	4	1.3	<20

Associated samples MP19630: MC13777-2, MC13777-4, MC13777-7, MC13777-9, MC13777-11, MC13777-13, MC13777-15, MC13777-17

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC13777
Account: LEA - Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19630
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.1.1

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC13777
 Account: LEA - Loureiro Eng. Associates
 Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19630
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 09/07/12

Metal	MC13777-15 Original MS		Spikelot MPICP	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	0.0	515	500	103.0	75-125
Barium	312	2270	2000	97.9	75-125
Beryllium					
Boron					
Cadmium	0.0	511	500	102.2	75-125
Calcium					
Chromium	0.80	494	500	98.6	75-125
Cobalt					
Copper	0.90	483	500	96.4	75-125
Gold					
Iron					
Lead	0.0	965	1000	96.5	75-125
Magnesium					
Manganese					
Molybdenum					
Nickel	1.0	482	500	96.2	75-125
Palladium					
Platinum					
Potassium					
Selenium	0.0	493	500	98.6	75-125
Silicon					
Silver	0.0	206	200	103.0	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc	16.8	504	500	97.4	75-125

Associated samples MP19630: MC13777-2, MC13777-4, MC13777-7, MC13777-9, MC13777-11, MC13777-13, MC13777-15, MC13777-17

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC13777
Account: LEA - Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19630
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.1.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC13777
 Account: LEA - Loureiro Eng. Associates
 Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19630
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 09/07/12

Metal	MC13777-15 Original	MSD	Spikelot MPICP	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	0.0	519	500	103.8	0.8	20
Barium	312	2290	2000	98.9	0.9	20
Beryllium						
Boron						
Cadmium	0.0	514	500	102.8	0.6	20
Calcium						
Chromium	0.80	498	500	99.4	0.8	20
Cobalt						
Copper	0.90	489	500	97.6	1.2	20
Gold						
Iron						
Lead	0.0	965	1000	96.5	0.0	20
Magnesium						
Manganese						
Molybdenum						
Nickel	1.0	485	500	96.8	0.6	20
Palladium						
Platinum						
Potassium						
Selenium	0.0	500	500	100.0	1.4	20
Silicon						
Silver	0.0	208	200	104.0	1.0	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc	16.8	509	500	98.4	1.0	20

Associated samples MP19630: MC13777-2, MC13777-4, MC13777-7, MC13777-9, MC13777-11, MC13777-13, MC13777-15, MC13777-17

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC13777
Account: LEA - Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19630
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.1.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC13777

Account: LEA - Loureiro Eng. Associates

Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19630

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

09/07/12

09/07/12

Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony									
Arsenic	503	500	100.6	80-120	498	500	99.6	1.0	20
Barium	1920	2000	96.0	80-120	1950	2000	97.5	1.6	20
Beryllium									
Boron									
Cadmium	492	500	98.4	80-120	493	500	98.6	0.2	20
Calcium									
Chromium	504	500	100.8	80-120	509	500	101.8	1.0	20
Cobalt									
Copper	470	500	94.0	80-120	474	500	94.8	0.8	20
Gold									
Iron									
Lead	988	1000	98.8	80-120	985	1000	98.5	0.3	20
Magnesium									
Manganese									
Molybdenum									
Nickel	495	500	99.0	80-120	493	500	98.6	0.4	20
Palladium									
Platinum									
Potassium									
Selenium	485	500	97.0	80-120	487	500	97.4	0.4	20
Silicon									
Silver	200	200	100.0	80-120	202	200	101.0	1.0	20
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium									
Zinc	502	500	100.4	80-120	501	500	100.2	0.2	20

Associated samples MP19630: MC13777-2, MC13777-4, MC13777-7, MC13777-9, MC13777-11, MC13777-13, MC13777-15, MC13777-17

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC13777

Account: LEA - Loureiro Eng. Associates

Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19630

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

8.1.3

8

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC13777
 Account: LEA - Loureiro Eng. Associates
 Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19630
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 09/07/12

Metal	MC13777-15 Original SDL 1:5		%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium	312	305	2.1	0-10
Beryllium				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium				
Chromium	0.800	0.00	100.0(a)	0-10
Cobalt				
Copper	0.900	0.00	100.0(a)	0-10
Gold				
Iron				
Lead	0.00	0.00	NC	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel	1.00	1.30	30.0 (a)	0-10
Palladium				
Platinum				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc	16.8	18.4	9.5	0-10

Associated samples MP19630: MC13777-2, MC13777-4, MC13777-7, MC13777-9, MC13777-11, MC13777-13, MC13777-15, MC13777-17

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC13777
Account: LEA - Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19630
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

8.1.4

8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC13777
Account: LEA - Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19637
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/10/12

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.011	.062	-0.035	<0.20

Associated samples MP19637: MC13777-2, MC13777-4, MC13777-7, MC13777-9, MC13777-11, MC13777-13, MC13777-15, MC13777-17

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC13777
 Account: LEA - Loureiro Eng. Associates
 Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19637
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 09/10/12

Metal	MC13777-7		SpikeLot		QC
	Original	MS	HGRWS1	% Rec	Limits
Mercury	0.0	3.2	3	106.7	75-125

Associated samples MP19637: MC13777-2, MC13777-4, MC13777-7, MC13777-9, MC13777-11, MC13777-13, MC13777-15, MC13777-17

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

8.2.2

8

Login Number: MC13777
Account: LEA - Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

Methods: SW846 7470A
Units: ug/l

09/10/12

Associated samples MP19637: MC13777-2, MC13777-4, MC13777-7, MC13777-9, MC13777-11, MC13777-13, MC13777-15, MC13777-17

(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC13777
 Account: LEA - Loureiro Eng. Associates
 Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19637
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 09/10/12 09/10/12

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits	BSD Result	Spikelot HGRWS1	% Rec	BSD RPD	QC Limit
Mercury	2.9	3	96.7	80-120	2.9	3	96.7	0.0	20

Associated samples MP19637: MC13777-2, MC13777-4, MC13777-7, MC13777-9, MC13777-11, MC13777-13, MC13777-15, MC13777-17

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

8.2.3

8



09/20/12

Technical Report for

Loureiro Eng. Associates

PWCTEH: Willow Brook - Pond W. East Hartford

88UT059

Accutest Job Number: MC13777A

Sampling Date: 09/06/12

Report to:

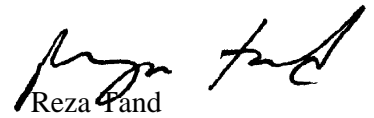
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100 Northwest Dr.
Plainville, CT 06062
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ATTN: Joe Trzaski

Total number of pages in report: **21**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.


Reza Pand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136, SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Test results relate only to samples analyzed.

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Sample Summary

Loureiro Eng. Associates

Job No: MC13777A

PWCTEH:Willow Brook - Pond W. East Hartford
Project No: 88UT059

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC13777-1A	09/06/12	10:46	JCSR	09/06/12	AQ Ground Water	1264979
MC13777-3A	09/06/12	10:46	JCSR	09/06/12	AQ Ground Water	1264991
MC13777-6A	09/06/12	13:36	JCSR	09/06/12	AQ Ground Water	1264980
MC13777-8A	09/06/12	15:30	JCSR	09/06/12	AQ Ground Water	1264889
MC13777-10A	09/06/12	12:35	JCSR	09/06/12	AQ Ground Water	1264977

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Loureiro Eng. Associates

Job No MC13777A

Site: PWCTEH:Willow Brook - Pond W. East Hartford

Report Date 9/20/2012 2:56:42 PM

5 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 09/06/2012 and were received at Accutest on 09/06/2012 properly preserved, at 2.1 Deg. C and intact. These Samples received an Accutest job number of MC13777A. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Wet Chemistry By Method SW846 7196A

Matrix: AQ

Batch ID: GN40073

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ

Batch ID: GN40074

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC13777-8ADUP, MC13777-8AMS were used as the QC samples for Chromium, Hexavalent.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report (MC13777A).

Summary of Hits

Job Number: MC13777A
Account: Loureiro Eng. Associates
Project: PWCTEH: Willow Brook - Pond W. East Hartford
Collected: 09/06/12



Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method
---------------	------------------	--------------------	----	-----	-------	--------

MC13777-1A 1264979

No hits reported in this sample.

MC13777-3A 1264991

No hits reported in this sample.

MC13777-6A 1264980

No hits reported in this sample.

MC13777-8A 1264889

No hits reported in this sample.

MC13777-10A 1264977

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	1264979	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-1A	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.010	0.010	mg/l	1	09/07/12 08:58	MA	SW846 7196A

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1264991	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-3A	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.010	0.010	mg/l	1	09/07/12 09:11	MA	SW846 7196A

RL = Reporting Limit

4.2
4

Report of Analysis

Client Sample ID:	1264980	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-6A	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.010	0.010	mg/l	1	09/07/12 09:11	MA	SW846 7196A

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1264889	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-8A	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.010	0.010	mg/l	1	09/07/12 09:11	MA	SW846 7196A

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1264977	Date Sampled:	09/06/12
Lab Sample ID:	MC13777-10A	Date Received:	09/06/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.010	0.010	mg/l	1	09/07/12 09:15	MA	SW846 7196A

RL = Reporting Limit

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- RCP Form
- Sample Tracking Chronicle

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

[illegible]

MC13777A: Chain of Custody

Page 1 of 2

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Laboratory Name: Accutest New England **Client:** Loureiro Eng. Associates

Project Location: PWCTEH:Willow Brook - Pond W. East **Project Number:**

Hartford

Sampling Date(s): 9/6/2012

Laboratory Sample ID(s): MC13777-1A, MC13777-3A, MC13777-6A, MC13777-8A, MC13777-10A

Methods: SW846 7196A

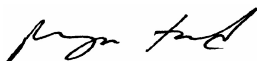
1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1A	Where all the method specified preservation and holding time requirements met?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1B	VPH and EPH methods only: Was the VPH or EPH method conducted without significant modifications (See section 11.3 of respective methods)	Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
3	Were samples received at an appropriate temperature (<6° C)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
5	a) Were reporting limits specified or referenced on the chain-of-custody?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	b) Were these reporting limits met?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence".

I, the undersigned, attest under pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized

Signature:



Position: Lab Director

Printed Name: Reza Tand

Accutest New England

Date: 9/20/2012

Internal Sample Tracking Chronicle

Loureiro Eng. Associates

Job No: MC13777A

PWCTEH: Willow Brook - Pond W. East Hartford

Project No: 88UT059

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC13777-1A 1264979	Collected: 06-SEP-12 10:46	By: JCSR	Received: 06-SEP-12	By:		
MC13777-1A	SW846 7196A	07-SEP-12 08:58	MA			XCR
MC13777-3A 1264991	Collected: 06-SEP-12 10:46	By: JCSR	Received: 06-SEP-12	By:		
MC13777-3A	SW846 7196A	07-SEP-12 09:11	MA			XCR
MC13777-6A 1264980	Collected: 06-SEP-12 13:36	By: JCSR	Received: 06-SEP-12	By:		
MC13777-6A	SW846 7196A	07-SEP-12 09:11	MA			XCR
MC13777-8A 1264889	Collected: 06-SEP-12 15:30	By: JCSR	Received: 06-SEP-12	By:		
MC13777-8A	SW846 7196A	07-SEP-12 09:11	MA			XCR
MC13777-10A 1264977	Collected: 06-SEP-12 12:35	By: JCSR	Received: 06-SEP-12	By:		
MC13777-10A	SW846 7196A	07-SEP-12 09:15	MA			XCR

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC13777A
Account: LEA - Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GN40073	0.010	0.0	mg/l	.1	0.10	100.0	85-115%
Chromium, Hexavalent	GN40074	0.010	0.0	mg/l	.1	0.10	100.0	85-115%

Associated Samples:

Batch GN40073: MC13777-1A

Batch GN40074: MC13777-10A, MC13777-3A, MC13777-6A, MC13777-8A

(*) Outside of QC limits

6.1

6

BLANK SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC13777A
Account: LEA - Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

Analyte	Batch ID	Units	Spike Amount	BSD Result	RPD	QC Limit
Chromium, Hexavalent	GN40073	mg/l	.1	0.10	0.0	20%
Chromium, Hexavalent	GN40074	mg/l	.1	0.10	0.0	20%

Associated Samples:

Batch GN40073: MC13777-1A

Batch GN40074: MC13777-10A, MC13777-3A, MC13777-6A, MC13777-8A

(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC13777A
Account: LEA - Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GN40074	MC13777-8A	mg/l	0.0	0.0	0.0	0-20%

Associated Samples:

Batch GN40074: MC13777-10A, MC13777-3A, MC13777-6A, MC13777-8A

(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC13777A
Account: LEA - Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GN40074	MC13777-8A	mg/l	0.0	.1	0.11	110.0	85-115%

Associated Samples:

Batch GN40074: MC13777-10A, MC13777-3A, MC13777-6A, MC13777-8A

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

6.4

6



09/21/12

Technical Report for

Loureiro Eng. Associates

PWCTEH: Willow Brook - Pond W. East Hartford

Accutest Job Number: MC13829

Sampling Date: 09/07/12

Report to:

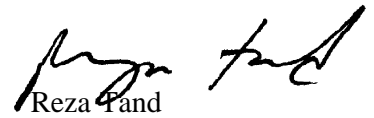
Loureiro Eng
100 Northwest Dr.
Plainville, CT 06062
jttrzaski@loureiro.com; rlmckinney@loureiro.com

ATTN: Joe Trzaski

Total number of pages in report: **67**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.


Reza Pand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136, SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Test results relate only to samples analyzed.

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Sample Summary

Loureiro Eng. Associates

Job No: MC13829

PWCTEH:Willow Brook - Pond W. East Hartford

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC13829-1	09/07/12	07:20	SRJC	09/07/12	AQ Ground Water	1264982
MC13829-2	09/07/12	07:20	SRJC	09/07/12	AQ Ground Water	1264982UF
MC13829-3	09/07/12	09:51	SRJC	09/07/12	AQ Ground Water	1264984
MC13829-4	09/07/12	09:51	SRJC	09/07/12	AQ Ground Water	1264984UF
MC13829-5	09/07/12	09:00	SRJC	09/07/12	AQ Trip Blank Water	1264988
MC13829-6	09/07/12	11:41	SRJC	09/07/12	AQ Ground Water	1264985
MC13829-7	09/07/12	11:41	SRJC	09/07/12	AQ Ground Water	1264985UF
MC13829-8	09/07/12	13:16	SRJC	09/07/12	AQ Ground Water	1264986
MC13829-9	09/07/12	13:16	SRJC	09/07/12	AQ Ground Water	1264986UF

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Loureiro Eng. Associates

Job No MC13829

Site: PWCTEH:Willow Brook - Pond W. East Hartford

Report Date 9/21/2012 2:52:00 PM

8 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 09/07/2012 and were received at Accutest on 09/07/2012 properly preserved, at 2.2 Deg. C and intact. These Samples received an Accutest job number of MC13829. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ

Batch ID: MSP2110

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- MSP2110-BS for 2,2-Dichloropropane, Dichlorodifluoromethane, Methyl Tert Butyl Ether, Vinyl chloride are outside control limits. Blank Spike meets program technical requirements.
- Quadratic regression is employed for initial calibration standard MSP2106-ICC2106 for 2,2-dichloropropane, 1,1,2-trichloroethane, 1,3-dichloropropane, bromoform, 1,2-dibromo-3-chloropropane.
- Continuing calibration check standard MSP2110-CC2106 for chloroethane, methyl tert butyl ether, 2,2-dichloropropane, bromochloromethane exceed 30% Difference. This check standard met RCP criteria.
- Initial calibration verification MSP2106-ICV2106 for acetone exceeds 35% Difference.

Extractables by GC By Method CT-ETPH 7/06

Matrix: AQ

Batch ID: OP30323

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Extractables by GC By Method SW846 8082

Matrix: AQ

Batch ID: OP30324

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010C

Matrix: AQ

Batch ID: MP19638

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC13837-1SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Chromium, Nickel, Selenium, Zinc are outside control limits for sample MP19638-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MP19638-SD1 for Zinc: Serial Dilution RPD acceptable due to low duplicate and sample concentrations.
- Only selected metals requested.

Metals By Method SW846 7470A

Matrix: AQ

Batch ID: MP19639

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ

Batch ID: MP19663

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report (MC13829).

Summary of Hits

Page 1 of 1

Job Number: MC13829
Account: Loureiro Eng. Associates
Project: PWCTEH: Willow Brook - Pond W. East Hartford
Collected: 09/07/12



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

MC13829-1 1264982

cis-1,2-Dichloroethene	3.2	1.0		ug/l	SW846 8260B
Tetrachloroethene	3.0	1.0		ug/l	SW846 8260B
Trichloroethene	10.8	1.0		ug/l	SW846 8260B

MC13829-2 1264982UF

Barium	204	50		ug/l	SW846 6010C
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MC13829-3 1264984

CT-ETPH (C9-C36)	0.130	0.082		mg/l	CT-ETPH 7/06
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MC13829-4 1264984UF

Arsenic	11.2	4.0		ug/l	SW846 6010C
Barium	61.0	50		ug/l	SW846 6010C

MC13829-5 1264988

No hits reported in this sample.

MC13829-6 1264985

No hits reported in this sample.

MC13829-7 1264985UF

Barium	57.4	50		ug/l	SW846 6010C
--------	------	----	--	------	-------------

MC13829-8 1264986

No hits reported in this sample.

MC13829-9 1264986UF

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	1264982	Date Sampled:	09/07/12
Lab Sample ID:	MC13829-1	Date Received:	09/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P64635.D	1	09/19/12	TT	n/a	n/a	MSP2110
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	3.2	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264982	Date Sampled: 09/07/12
Lab Sample ID: MC13829-1	Date Received: 09/07/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	3.0	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	10.8	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264982	Date Sampled:	09/07/12
Lab Sample ID:	MC13829-1	Date Received:	09/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	93%		70-130%
460-00-4	4-Bromofluorobenzene	111%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	1264982		
Lab Sample ID:	MC13829-1	Date Sampled:	09/07/12
Matrix:	AQ - Ground Water	Date Received:	09/07/12
Method:	CT-ETPH 7/06 SW846 3510C	Percent Solids:	n/a
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC645419.D	1	09/14/12	KN	09/10/12	OP30323	GBC3118
Run #2							

	Initial Volume	Final Volume
Run #1	960 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.083	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	97%		50-149%	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264982	Date Sampled:	09/07/12
Lab Sample ID:	MC13829-1	Date Received:	09/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK16850.D	1	09/12/12	AP	09/10/12	OP30324	GBK631
Run #2							

Run #	Initial Volume	Final Volume
Run #1	990 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.25	ug/l	
11141-16-5	Aroclor 1232	ND	0.25	ug/l	
53469-21-9	Aroclor 1242	ND	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.25	ug/l	
37324-23-5	Aroclor 1262	ND	0.25	ug/l	
11100-14-4	Aroclor 1268	ND	0.25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	85%		30-150%
877-09-8	Tetrachloro-m-xylene	82%		30-150%
2051-24-3	Decachlorobiphenyl	58%		30-150%
2051-24-3	Decachlorobiphenyl	52%		30-150%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264982UF	Date Sampled: 09/07/12
Lab Sample ID: MC13829-2	Date Received: 09/07/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³
Barium	204	50	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³
Copper	< 25	25	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	09/10/12	09/11/12 EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³
Zinc	< 20	20	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14697

(2) Instrument QC Batch: MA14702

(3) Prep QC Batch: MP19638

(4) Prep QC Batch: MP19639

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1264984	Date Sampled:	09/07/12
Lab Sample ID:	MC13829-3	Date Received:	09/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P64636.D	1	09/19/12	TT	n/a	n/a	MSP2110
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264984	Date Sampled: 09/07/12
Lab Sample ID: MC13829-3	Date Received: 09/07/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264984	Date Sampled:	09/07/12
Lab Sample ID:	MC13829-3	Date Received:	09/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	91%		70-130%
460-00-4	4-Bromofluorobenzene	111%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	1264984		
Lab Sample ID:	MC13829-3	Date Sampled:	09/07/12
Matrix:	AQ - Ground Water	Date Received:	09/07/12
Method:	CT-ETPH 7/06 SW846 3510C	Percent Solids:	n/a
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC645421.D	1	09/14/12	KN	09/10/12	OP30323	GBC3118
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	0.130	0.082	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	91%		50-149%	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264984		
Lab Sample ID:	MC13829-3	Date Sampled:	09/07/12
Matrix:	AQ - Ground Water	Date Received:	09/07/12
Method:	SW846 8082 SW846 3510C	Percent Solids:	n/a
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK16851.D	1	09/12/12	AP	09/10/12	OP30324	GBK631
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.25	ug/l	
11141-16-5	Aroclor 1232	ND	0.25	ug/l	
53469-21-9	Aroclor 1242	ND	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.25	ug/l	
37324-23-5	Aroclor 1262	ND	0.25	ug/l	
11100-14-4	Aroclor 1268	ND	0.25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	83%		30-150%
877-09-8	Tetrachloro-m-xylene	74%		30-150%
2051-24-3	Decachlorobiphenyl	57%		30-150%
2051-24-3	Decachlorobiphenyl	52%		30-150%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264984UF	Date Sampled:	09/07/12
Lab Sample ID:	MC13829-4	Date Received:	09/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	11.2	4.0	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³
Barium	61.0	50	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³
Copper	< 25	25	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	09/10/12	09/11/12 EM	SW846 7470A ¹	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³
Selenium	< 10	10	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³
Zinc	< 20	20	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA14697

(2) Instrument QC Batch: MA14702

(3) Prep QC Batch: MP19638

(4) Prep QC Batch: MP19639

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1264988	Date Sampled:	09/07/12
Lab Sample ID:	MC13829-5	Date Received:	09/07/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P64621.D	1	09/19/12	TT	n/a	n/a	MSP2110
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264988	Date Sampled: 09/07/12
Lab Sample ID: MC13829-5	Date Received: 09/07/12
Matrix: AQ - Trip Blank Water	Percent Solids: n/a
Method: SW846 8260B	
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264988	Date Sampled:	09/07/12
Lab Sample ID:	MC13829-5	Date Received:	09/07/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	89%		70-130%
460-00-4	4-Bromofluorobenzene	109%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264985	Date Sampled:	09/07/12
Lab Sample ID:	MC13829-6	Date Received:	09/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P64637.D	1	09/19/12	TT	n/a	n/a	MSP2110
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264985	Date Sampled:	09/07/12
Lab Sample ID:	MC13829-6	Date Received:	09/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264985	Date Sampled:	09/07/12
Lab Sample ID:	MC13829-6	Date Received:	09/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	87%		70-130%
460-00-4	4-Bromofluorobenzene	108%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	1264985		
Lab Sample ID:	MC13829-6	Date Sampled:	09/07/12
Matrix:	AQ - Ground Water	Date Received:	09/07/12
Method:	CT-ETPH 7/06 SW846 3510C	Percent Solids:	n/a
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC645423.D	1	09/14/12	KN	09/10/12	OP30323	GBC3118
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.080	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	95%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264985	Date Sampled:	09/07/12
Lab Sample ID:	MC13829-6	Date Received:	09/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK16852.D	1	09/12/12	AP	09/10/12	OP30324	GBK631
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.26	ug/l	
11104-28-2	Aroclor 1221	ND	0.26	ug/l	
11141-16-5	Aroclor 1232	ND	0.26	ug/l	
53469-21-9	Aroclor 1242	ND	0.26	ug/l	
12672-29-6	Aroclor 1248	ND	0.26	ug/l	
11097-69-1	Aroclor 1254	ND	0.26	ug/l	
11096-82-5	Aroclor 1260	ND	0.26	ug/l	
37324-23-5	Aroclor 1262	ND	0.26	ug/l	
11100-14-4	Aroclor 1268	ND	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	86%		30-150%
877-09-8	Tetrachloro-m-xylene	84%		30-150%
2051-24-3	Decachlorobiphenyl	43%		30-150%
2051-24-3	Decachlorobiphenyl	40%		30-150%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264985UF	Date Sampled: 09/07/12
Lab Sample ID: MC13829-7	Date Received: 09/07/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analized By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³
Barium	57.4	50	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³
Chromium	< 10	10	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³
Copper	< 25	25	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	09/14/12	09/17/12 PY	SW846 7470A ²	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³
Selenium	< 10	10	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³
Zinc	< 20	20	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³

(1) Instrument QC Batch: MA14702

(2) Instrument QC Batch: MA14712

(3) Prep QC Batch: MP19638

(4) Prep QC Batch: MP19663

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1264986	Date Sampled:	09/07/12
Lab Sample ID:	MC13829-8	Date Received:	09/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P64638.D	1	09/19/12	TT	n/a	n/a	MSP2110
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264986	Date Sampled: 09/07/12
Lab Sample ID: MC13829-8	Date Received: 09/07/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264986	Date Sampled:	09/07/12
Lab Sample ID:	MC13829-8	Date Received:	09/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	96%		70-130%
460-00-4	4-Bromofluorobenzene	118%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	1264986	Date Sampled:	09/07/12
Lab Sample ID:	MC13829-8	Date Received:	09/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	CT-ETPH 7/06 SW846 3510C		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC645429.D	1	09/14/12	KN	09/10/12	OP30323	GBC3118
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.082	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	88%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1264986	Date Sampled:	09/07/12
Lab Sample ID:	MC13829-8	Date Received:	09/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	PWCTEH: Willow Brook - Pond W. East Hartford		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK16853.D	1	09/12/12	AP	09/10/12	OP30324	GBK631
Run #2							

Run #	Initial Volume	Final Volume
Run #1	990 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.25	ug/l	
11141-16-5	Aroclor 1232	ND	0.25	ug/l	
53469-21-9	Aroclor 1242	ND	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.25	ug/l	
37324-23-5	Aroclor 1262	ND	0.25	ug/l	
11100-14-4	Aroclor 1268	ND	0.25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	88%		30-150%
877-09-8	Tetrachloro-m-xylene	85%		30-150%
2051-24-3	Decachlorobiphenyl	66%		30-150%
2051-24-3	Decachlorobiphenyl	61%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1264986UF	Date Sampled: 09/07/12
Lab Sample ID: MC13829-9	Date Received: 09/07/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: PWCTEH: Willow Brook - Pond W. East Hartford	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analized By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³
Barium	< 50	50	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³
Chromium	< 10	10	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³
Copper	< 25	25	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	09/14/12	09/17/12 PY	SW846 7470A ²	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³
Selenium	< 10	10	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³
Zinc	< 20	20	ug/l	1	09/10/12	09/11/12 EAL	SW846 6010C ¹	SW846 3010A ³

(1) Instrument QC Batch: MA14702

(2) Instrument QC Batch: MA14712

(3) Prep QC Batch: MP19638

(4) Prep QC Batch: MP19663

RL = Reporting Limit

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- RCP Form
- Sample Tracking Chronicle

FED-EX Tracking #		Bottle Order Control #	
FDI/2012-217		MC13829	
Project Name		Main Codes	
Loureiro Engineering Assoc.		DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WIP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank	
Street Address		LAB USE ONLY	
100 Northwest Dr			
City			
Plainville, CT			
Project Contact			
Robin McKinney			
Phone #			
860-747-3000			
Sample(s) Name(s)			
JC/AC/SR			
Field ID / Point of Collection			
MC13829			
MECH/DI List #			
Date			
Time			
Sampled by			
Matrix			
# of bottles			
HCl			
NaOH			
H ₂ O ₂			
H ₂ SO ₄			
NONE			
DI Water			
MEOH			
ENDORE			
Bottlefiller			
Number of preserved Bottles			
VOCs 8260B			
CT ETPH			
PCBs 8082			
Total RCPAG metals Fe, Ni, Zn			
Comments / Special Instructions			
Please Provide CT RCP Analytical Lists For VOCs and PCBs and Provide CT RCP Report			
Turnaround Time (Business days)			
<input checked="" type="checkbox"/> Std. 10 Business Days <input type="checkbox"/> Std. 5 Business Days (By Contract only) <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY			
Approved By (Accutest PM): / Date:			
Data Deliverable Information			
<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> FULLT1 (Level 3+4) <input checked="" type="checkbox"/> CT RCP <input type="checkbox"/> MA MCP			
<input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format <input type="checkbox"/> Other			
Commercial "A" = Results Only Commercial "B" = Results + QC Summary			
Emergency & Rush TIA data available VIA Lablink			
Sample Custody must be documented below each time samples change possession, including courier delivery.			
Relinquished by Sampler:	Date Time:	Received By:	Date Time:
1	9/7/12 1630	1	1845
Relinquished by Sampler:	Date Time:	Received By:	Date Time:
2		2	7:12
Relinquished by Sampler:	Date Time:	Received By:	Date Time:
3		3	
Relinquished by Sampler:	Date Time:	Received By:	Date Time:
4		4	
Relinquished by Sampler:	Date Time:	Received By:	Date Time:
5		5	
Custody Seal #		Preserved where applicable	
<input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		<input type="checkbox"/> On Ice <input checked="" type="checkbox"/> Cooler Temp. 2.2	

MC13829: Chain of Custody

Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC13829

Client: LEA

Immediate Client Services Action Required: No

Date / Time Received: 9/7/2012

Delivery Method:

Client Service Action Required at Login: No

Project: WILLOW

No. Coolers: 1

Airbill #'s:

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:			Infrared gun
3. Cooler media:			Ice (bag)

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:			Intact

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Laboratory Name: Accutest New England **Client:** Loureiro Eng. Associates

Project Location: PWCTEH:Willow Brook - Pond W. East Hartford **Project Number:**

Sampling Date(s): 9/7/2012

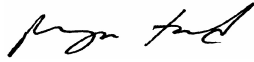
Laboratory Sample ID(s): MC13829-1, MC13829-2, MC13829-3, MC13829-4, MC13829-5, MC13829-6, MC13829-7, MC13829-8, MC13829-9

Methods: CT-ETPH 7/06, SW846 6010C, SW846 7470A, SW846 8082, SW846 8260B

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1A	Where all the method specified preservation and holding time requirements met?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1B	VPH and EPH methods only: Was the VPH or EPH method conducted without significant modifications (See section 11.3 of respective methods)	Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
3	Were samples received at an appropriate temperature (<6° C)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
5	a) Were reporting limits specified or referenced on the chain-of-custody?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	b) Were these reporting limits met?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence".

I, the undersigned, attest under pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized
Signature:  Position: Lab Director
Printed Name: Reza Tand Date: 9/21/2012
Accutest New England

Internal Sample Tracking Chronicle

Loureiro Eng. Associates

Job No: MC13829

PWCTEH: Willow Brook - Pond W. East Hartford

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC13829-1 Collected: 07-SEP-12 07:20 By: SRJC Received: 07-SEP-12 By: 1264982						
MC13829-1 SW846 8082		12-SEP-12 17:40	AP	10-SEP-12	NK	P8082RCP
MC13829-1 CT-ETPH 7/06		14-SEP-12 02:50	KN	10-SEP-12	FC	BCTTPH
MC13829-1 SW846 8260B		19-SEP-12 06:41	TT			V8260RCP
MC13829-2 Collected: 07-SEP-12 07:20 By: SRJC Received: 07-SEP-12 By: 1264982UF						
MC13829-2 SW846 7470A		11-SEP-12 13:24	EM	10-SEP-12	EM	HG
MC13829-2 SW846 6010C		11-SEP-12 16:03	EAL	10-SEP-12	DA	AG,AS,BA,CD,CR,CU,NI,PB,SE,ZN
MC13829-3 Collected: 07-SEP-12 09:51 By: SRJC Received: 07-SEP-12 By: 1264984						
MC13829-3 SW846 8082		12-SEP-12 17:59	AP	10-SEP-12	NK	P8082RCP
MC13829-3 CT-ETPH 7/06		14-SEP-12 03:22	KN	10-SEP-12	FC	BCTTPH
MC13829-3 SW846 8260B		19-SEP-12 07:09	TT			V8260RCP
MC13829-4 Collected: 07-SEP-12 09:51 By: SRJC Received: 07-SEP-12 By: 1264984UF						
MC13829-4 SW846 7470A		11-SEP-12 13:26	EM	10-SEP-12	EM	HG
MC13829-4 SW846 6010C		11-SEP-12 16:08	EAL	10-SEP-12	DA	AG,AS,BA,CD,CR,CU,NI,PB,SE,ZN
MC13829-5 Collected: 07-SEP-12 09:00 By: SRJC Received: 07-SEP-12 By: 1264988						
MC13829-5 SW846 8260B		19-SEP-12 00:10	TT			V8260RCP
MC13829-6 Collected: 07-SEP-12 11:41 By: SRJC Received: 07-SEP-12 By: 1264985						
MC13829-6 SW846 8082		12-SEP-12 18:18	AP	10-SEP-12	NK	P8082RCP
MC13829-6 CT-ETPH 7/06		14-SEP-12 03:55	KN	10-SEP-12	FC	BCTTPH
MC13829-6 SW846 8260B		19-SEP-12 07:36	TT			V8260RCP

Internal Sample Tracking Chronicle

Loureiro Eng. Associates

Job No: MC13829

PWCTEH: Willow Brook - Pond W. East Hartford

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC13829-7 Collected: 07-SEP-12 11:41 By: SRJC Received: 07-SEP-12 By: 1264985UF						
MC13829-7 SW846 6010C		11-SEP-12 16:13	EAL	10-SEP-12	DA	AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC13829-7 SW846 7470A		17-SEP-12 11:04	PY	14-SEP-12	EM	HG
MC13829-8 Collected: 07-SEP-12 13:16 By: SRJC Received: 07-SEP-12 By: 1264986						
MC13829-8 SW846 8082		12-SEP-12 18:37	AP	10-SEP-12	NK	P8082RCP
MC13829-8 CT-ETPH 7/06		14-SEP-12 05:31	KN	10-SEP-12	FC	BCTTPH
MC13829-8 SW846 8260B		19-SEP-12 08:04	TT			V8260RCP
MC13829-9 Collected: 07-SEP-12 13:16 By: SRJC Received: 07-SEP-12 By: 1264986UF						
MC13829-9 SW846 6010C		11-SEP-12 16:18	EAL	10-SEP-12	DA	AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC13829-9 SW846 7470A		17-SEP-12 11:06	PY	14-SEP-12	EM	HG

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Page 1 of 3

Job Number: MC13829**Account:** LEA Loureiro Eng. Associates**Project:** PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2110-MB	P64620.D	1	09/18/12	TT	n/a	n/a	MSP2110

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC13829-1, MC13829-3, MC13829-5, MC13829-6, MC13829-8

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	

Method Blank Summary

Page 2 of 3

Job Number: MC13829**Account:** LEA Loureiro Eng. Associates**Project:** PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2110-MB	P64620.D	1	09/18/12	TT	n/a	n/a	MSP2110

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC13829-1, MC13829-3, MC13829-5, MC13829-6, MC13829-8

CAS No.	Compound	Result	RL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

Method Blank Summary

Page 3 of 3

Job Number: MC13829

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2110-MB	P64620.D	1	09/18/12	TT	n/a	n/a	MSP2110

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13829-1, MC13829-3, MC13829-5, MC13829-6, MC13829-8

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	96% 70-130%
2037-26-5	Toluene-D8	93% 70-130%
460-00-4	4-Bromofluorobenzene	113% 70-130%

Blank Spike Summary

Page 1 of 3

Job Number: MC13829**Account:** LEA Loureiro Eng. Associates**Project:** PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2110-BS	P64617.D	1	09/18/12	TT	n/a	n/a	MSP2110

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC13829-1, MC13829-3, MC13829-5, MC13829-6, MC13829-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	44.9	90	70-130
107-13-1	Acrylonitrile	50	53.3	107	70-130
71-43-2	Benzene	50	48.0	96	70-130
108-86-1	Bromobenzene	50	53.7	107	70-130
75-27-4	Bromodichloromethane	50	51.7	103	70-130
75-25-2	Bromoform	50	37.3	75	70-130
74-83-9	Bromomethane	50	39.8	80	70-130
78-93-3	2-Butanone (MEK)	50	47.4	95	70-130
104-51-8	n-Butylbenzene	50	49.1	98	70-130
135-98-8	sec-Butylbenzene	50	51.0	102	70-130
98-06-6	tert-Butylbenzene	50	51.2	102	70-130
75-15-0	Carbon disulfide	50	43.2	86	70-130
56-23-5	Carbon tetrachloride	50	38.1	76	70-130
108-90-7	Chlorobenzene	50	54.9	110	70-130
75-00-3	Chloroethane	50	52.5	105	70-130
67-66-3	Chloroform	50	51.0	102	70-130
74-87-3	Chloromethane	50	50.0	100	70-130
95-49-8	o-Chlorotoluene	50	55.3	111	70-130
106-43-4	p-Chlorotoluene	50	59.8	120	70-130
96-12-8	1,2-Dibromo-3-chloropropane	50	57.2	114	70-130
124-48-1	Dibromochloromethane	50	47.4	95	70-130
106-93-4	1,2-Dibromoethane	50	53.9	108	70-130
95-50-1	1,2-Dichlorobenzene	50	58.0	116	70-130
541-73-1	1,3-Dichlorobenzene	50	57.8	116	70-130
106-46-7	1,4-Dichlorobenzene	50	52.9	106	70-130
75-71-8	Dichlorodifluoromethane	50	23.3	47* a	70-130
75-34-3	1,1-Dichloroethane	50	48.9	98	70-130
107-06-2	1,2-Dichloroethane	50	53.7	107	70-130
75-35-4	1,1-Dichloroethene	50	48.1	96	70-130
156-59-2	cis-1,2-Dichloroethene	50	49.1	98	70-130
156-60-5	trans-1,2-Dichloroethene	50	43.8	88	70-130
78-87-5	1,2-Dichloropropane	50	53.7	107	70-130
142-28-9	1,3-Dichloropropane	50	45.3	91	70-130
594-20-7	2,2-Dichloropropane	50	21.4	43* a	70-130
563-58-6	1,1-Dichloropropene	50	43.8	88	70-130
10061-01-5	cis-1,3-Dichloropropene	50	43.1	86	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC13829
Account: LEA Loureiro Eng. Associates
Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2110-BS	P64617.D	1	09/18/12	TT	n/a	n/a	MSP2110

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13829-1, MC13829-3, MC13829-5, MC13829-6, MC13829-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	40.7	81	70-130
100-41-4	Ethylbenzene	50	47.1	94	70-130
76-13-1	Freon 113	50	34.8	70	70-130
87-68-3	Hexachlorobutadiene	50	47.4	95	70-130
591-78-6	2-Hexanone	50	49.5	99	70-130
98-82-8	Isopropylbenzene	50	53.0	106	70-130
99-87-6	p-Isopropyltoluene	50	50.7	101	70-130
1634-04-4	Methyl Tert Butyl Ether	50	22.3	45* a	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	50.8	102	70-130
74-95-3	Methylene bromide	50	51.2	102	70-130
75-09-2	Methylene chloride	50	50.3	101	70-130
91-20-3	Naphthalene	50	50.7	101	70-130
103-65-1	n-Propylbenzene	50	51.7	103	70-130
100-42-5	Styrene	50	50.7	101	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	50.8	102	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	56.1	112	70-130
127-18-4	Tetrachloroethene	50	45.5	91	70-130
109-99-9	Tetrahydrofuran	50	47.3	95	70-130
108-88-3	Toluene	50	48.7	97	70-130
110-57-6	Trans-1,4-Dichloro-2-Butene	50	53.8	108	70-130
87-61-6	1,2,3-Trichlorobenzene	50	53.8	108	70-130
120-82-1	1,2,4-Trichlorobenzene	50	53.2	106	70-130
71-55-6	1,1,1-Trichloroethane	50	36.7	73	70-130
79-00-5	1,1,2-Trichloroethane	50	46.1	92	70-130
79-01-6	Trichloroethene	50	47.1	94	70-130
75-69-4	Trichlorofluoromethane	50	35.0	70	70-130
96-18-4	1,2,3-Trichloropropane	50	54.0	108	70-130
95-63-6	1,2,4-Trimethylbenzene	50	51.2	102	70-130
108-67-8	1,3,5-Trimethylbenzene	50	50.2	100	70-130
75-01-4	Vinyl chloride	50	32.5	65* a	70-130
	m,p-Xylene	100	102	102	70-130
95-47-6	o-Xylene	50	56.2	112	70-130

* = Outside of Control Limits.

Blank Spike Summary

Page 3 of 3

Job Number: MC13829

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2110-BS	P64617.D	1	09/18/12	TT	n/a	n/a	MSP2110

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13829-1, MC13829-3, MC13829-5, MC13829-6, MC13829-8

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	70-130%
2037-26-5	Toluene-D8	96%	70-130%
460-00-4	4-Bromofluorobenzene	110%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: MC13829
Account: LEA Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

Check Std: MSP2110-CC2106
Lab File ID: P64616.D
Instrument ID: GCMSP
Injection Date: 09/18/12
Injection Time: 21:50
Method: SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	457278	8.25	774808	9.09	402884	12.31	342488	14.87	149189	5.95
Upper Limit ^a	914556	8.75	1549616	9.59	805768	12.81	684976	15.37	298378	6.45
Lower Limit ^b	228639	7.75	387404	8.59	201442	11.81	171244	14.37	74595	5.45

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSP2110-BS	480385	8.25	820082	9.09	425553	12.31	360540	14.87	161601	5.95
MSP2110-MB	481060	8.25	816452	9.10	402420	12.31	310324	14.87	182328	5.96
MC13829-5	494316	8.25	836901	9.10	415467	12.31	317297	14.87	185327	5.96
ZZZZZZ	470724	8.25	800244	9.10	399254	12.31	302871	14.87	185299	5.96
ZZZZZZ	464849	8.25	794163	9.10	397161	12.31	305400	14.87	171451	5.96
ZZZZZZ	451951	8.25	775638	9.10	385372	12.31	292442	14.87	168358	5.96
ZZZZZZ	448519	8.25	766920	9.10	379080	12.31	286526	14.87	156430	5.97
ZZZZZZ	468064	8.25	796167	9.10	394044	12.31	297172	14.87	161554	5.96
ZZZZZZ	427660	8.25	730721	9.10	364342	12.31	274875	14.87	155692	5.96
ZZZZZZ	431249	8.25	746148	9.10	368771	12.31	278745	14.87	164498	5.95
ZZZZZZ	414526	8.25	724844	9.10	362152	12.31	271870	14.87	162897	5.96
ZZZZZZ	439545	8.25	757369	9.10	384776	12.31	302091	14.87	175788	5.96
ZZZZZZ	431138	8.25	732297	9.10	361838	12.31	273173	14.87	159357	5.96
ZZZZZZ	427998	8.25	735507	9.10	365615	12.31	274912	14.87	155867	5.96
ZZZZZZ	430516	8.25	729877	9.10	358348	12.31	282948	14.87	148584	5.96
ZZZZZZ	411827	8.25	702273	9.10	344149	12.31	265779	14.87	142134	5.96
MC13829-1	443774	8.25	761312	9.10	377030	12.31	288872	14.87	156338	5.96
MC13829-3	447077	8.25	767956	9.10	384576	12.31	286630	14.87	161139	5.96
MC13829-6	458782	8.25	791509	9.10	393155	12.31	295466	14.87	165910	5.96
MC13829-8	418849	8.25	719053	9.10	357696	12.31	265763	14.87	143345	5.96
ZZZZZZ	461639	8.25	788463	9.10	412926	12.31	387870	14.87	162562	5.95
ZZZZZZ	496787	8.25	836328	9.10	422668	12.31	354854	14.87	181139	5.96

IS 1 = Pentafluorobenzene
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5
IS 4 = 1,4-Dichlorobenzene-d4
IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Job Number: MC13829
Account: LEA Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

Method: SW846 8260B	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC13829-1	P64635.D	98.0	93.0	111.0
MC13829-3	P64636.D	96.0	91.0	111.0
MC13829-5	P64621.D	92.0	89.0	109.0
MC13829-6	P64637.D	93.0	87.0	108.0
MC13829-8	P64638.D	101.0	96.0	118.0
MSP2110-BS	P64617.D	100.0	96.0	110.0
MSP2110-MB	P64620.D	96.0	93.0	113.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-130%
S2 = Toluene-D8	70-130%
S3 = 4-Bromofluorobenzene	70-130%

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Page 1 of 1

Job Number: MC13829

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30323-MB	BC645361.D	1	09/13/12	KN	09/10/12	OP30323	GBC3118

The QC reported here applies to the following samples:

Method: CT-ETPH 7/06

MC13829-1, MC13829-3, MC13829-6, MC13829-8

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.080	mg/l	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	94% 50-149%

Method Blank Summary

Page 1 of 1

Job Number: MC13829

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30324-MB	BK16826A.D1		09/12/12	AP	09/10/12	OP30324	GBK631

The QC reported here applies to the following samples:

Method: SW846 8082

MC13829-1, MC13829-3, MC13829-6, MC13829-8

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.25	ug/l	
11141-16-5	Aroclor 1232	ND	0.25	ug/l	
53469-21-9	Aroclor 1242	ND	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.25	ug/l	
37324-23-5	Aroclor 1262	ND	0.25	ug/l	
11100-14-4	Aroclor 1268	ND	0.25	ug/l	

CAS No.	Surrogate Recoveries	Limits
877-09-8	Tetrachloro-m-xylene	97% 30-150%
877-09-8	Tetrachloro-m-xylene	87% 30-150%
2051-24-3	Decachlorobiphenyl	53% 30-150%
2051-24-3	Decachlorobiphenyl	47% 30-150%

Blank Spike Summary

Page 1 of 1

Job Number: MC13829

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30323-BS	BC645363.D	1	09/13/12	KN	09/10/12	OP30323	GBC3118

The QC reported here applies to the following samples:

Method: CT-ETPH 7/06

MC13829-1, MC13829-3, MC13829-6, MC13829-8

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	CT-ETPH (C9-C36)	0.7	0.422	60	60-120

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	88%	50-149%

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: MC13829

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30324-BS	BK16827A.D1		09/12/12	AP	09/10/12	OP30324	GBK631

The QC reported here applies to the following samples:

Method: SW846 8082

MC13829-1, MC13829-3, MC13829-6, MC13829-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
12674-11-2	Aroclor 1016	2	2.1	105	40-140
11104-28-2	Aroclor 1221		ND		40-140
11141-16-5	Aroclor 1232		ND		40-140
53469-21-9	Aroclor 1242		ND		40-140
12672-29-6	Aroclor 1248		ND		40-140
11097-69-1	Aroclor 1254		ND		40-140
11096-82-5	Aroclor 1260	2	1.7	85	40-140
37324-23-5	Aroclor 1262		ND		40-140
11100-14-4	Aroclor 1268		ND		40-140

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	95%	30-150%
877-09-8	Tetrachloro-m-xylene	90%	30-150%
2051-24-3	Decachlorobiphenyl	52%	30-150%
2051-24-3	Decachlorobiphenyl	45%	30-150%

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: MC13829
Account: LEA Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

Method: CT-ETPH 7/06	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a
MC13829-1	BC645419.D	97.0
MC13829-3	BC645421.D	91.0
MC13829-6	BC645423.D	95.0
MC13829-8	BC645429.D	88.0
OP30323-BS	BC645363.D	88.0
OP30323-MB	BC645361.D	94.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	50-149%

(a) Recovery from GC signal #1

7.3.1
7

Semivolatile Surrogate Recovery Summary

Page 1 of 1

Job Number: MC13829

Account: LEA Loureiro Eng. Associates

Project: PWCTEH: Willow Brook - Pond W. East Hartford

Method: SW846 8082

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a	S1 ^b	S2 ^a	S2 ^b
MC13829-1	BK16850.D	85.0	82.0	58.0	52.0
MC13829-3	BK16851.D	83.0	74.0	57.0	52.0
MC13829-6	BK16852.D	86.0	84.0	43.0	40.0
MC13829-8	BK16853.D	88.0	85.0	66.0	61.0
OP30324-BS	BK16827A.D	95.0	90.0	52.0	45.0
OP30324-MB	BK16826A.D	97.0	87.0	53.0	47.0

Surrogate Compounds

Recovery Limits

S1 = Tetrachloro-m-xylene

30-150%

S2 = Decachlorobiphenyl

30-150%

(a) Recovery from GC signal #1

(b) Recovery from GC signal #2

7.3.2

7

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC13829
Account: LEA - Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19638
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/10/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	13	21		
Antimony	6.0	.8	1.7		
Arsenic	4.0	.99	1.9	-0.30	<4.0
Barium	50	.28	.65	0.50	<50
Beryllium	4.0	.13	.28		
Boron	100	.58	.59		
Cadmium	4.0	.19	.19	0.20	<4.0
Calcium	5000	34	36		
Chromium	10	.6	.83	0.50	<10
Cobalt	50	.15	.4		
Copper	25	.85	1.4	1.0	<25
Gold	50	1.8	2.7		
Iron	100	4.2	11		
Lead	5.0	1.3	2.1	-0.80	<5.0
Magnesium	5000	36	60		
Manganese	15	.05	.54		
Molybdenum	100	.23	1.5		
Nickel	40	.25	.7	0.30	<40
Palladium	50	2.4	7.9		
Platinum	50	6.6	19		
Potassium	5000	45	190		
Selenium	10	1.4	2	1.4	<10
Silicon	100	4.8	8.4		
Silver	5.0	.69	1.3	-0.20	<5.0
Sodium	5000	13	40		
Strontium	10	.11	.35		
Thallium	5.0	.99	1.4		
Tin	100	.34	.75		
Titanium	50	.55	.88		
Tungsten	100	5.9	14		
Vanadium	10	.95	1.3		
Zinc	20	.33	4	2.9	<20

Associated samples MP19638: MC13829-2, MC13829-4, MC13829-7, MC13829-9

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC13829
Account: LEA - Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19638
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC13829

Account: LEA - Loureiro Eng. Associates

Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19638

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

09/10/12

09/10/12

Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony									
Arsenic	505	500	101.0	80-120	506	500	101.2	0.2	20
Barium	2020	2000	101.0	80-120	2000	2000	100.0	1.0	20
Beryllium									
Boron									
Cadmium	506	500	101.2	80-120	502	500	100.4	0.8	20
Calcium									
Chromium	539	500	107.8	80-120	541	500	108.2	0.4	20
Cobalt									
Copper	493	500	98.6	80-120	491	500	98.2	0.4	20
Gold									
Iron									
Lead	991	1000	99.1	80-120	992	1000	99.2	0.1	20
Magnesium									
Manganese									
Molybdenum									
Nickel	502	500	100.4	80-120	501	500	100.2	0.2	20
Palladium									
Platinum									
Potassium									
Selenium	492	500	98.4	80-120	487	500	97.4	1.0	20
Silicon									
Silver	213	200	106.5	80-120	211	200	105.5	0.9	20
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium									
Zinc	509	500	101.8	80-120	507	500	101.4	0.4	20

Associated samples MP19638: MC13829-2, MC13829-4, MC13829-7, MC13829-9

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC13829

Account: LEA - Loureiro Eng. Associates

Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19638

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

8.1.2

8

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC13829
 Account: LEA - Loureiro Eng. Associates
 Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19638
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 09/10/12

Metal	MC13837-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium	278	276	0.5	0-10
Beryllium				
Boron				
Cadmium	3.00	3.20	6.7	0-10
Calcium				
Chromium	1.00	0.00	100.0 (a)	0-10
Cobalt				
Copper	0.00	0.00	NC	0-10
Gold				
Iron				
Lead	0.00	0.00	NC	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel	0.800	0.00	100.0 (a)	0-10
Palladium				
Platinum				
Potassium				
Selenium	1.80	0.00	100.0 (a)	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc	17.3	25.4	46.8 (b)	0-10

Associated samples MP19638: MC13829-2, MC13829-4, MC13829-7, MC13829-9

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC13829
Account: LEA - Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19638
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

(b) Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

8.1.3

8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC13829
Account: LEA - Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19639
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/10/12

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.011	.062	-0.023	<0.20

Associated samples MP19639: MC13829-2, MC13829-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC13829
 Account: LEA - Loureiro Eng. Associates
 Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19639
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 09/10/12 09/10/12

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits	BSD Result	Spikelot HGRWS1	% Rec	BSD RPD	QC Limit
Mercury	3.0	3	100.0	80-120	3.0	3	100.0	0.0	20

Associated samples MP19639: MC13829-2, MC13829-4

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC13829
Account: LEA - Loureiro Eng. Associates
Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19663
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/14/12

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.20	.011	.062	0.0070	<0.20

Associated samples MP19663: MC13829-7, MC13829-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.3.1

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC13829
 Account: LEA - Loureiro Eng. Associates
 Project: PWCTEH:Willow Brook - Pond W. East Hartford

QC Batch ID: MP19663
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 09/14/12 09/14/12

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits	BSD Result	Spikelot HGRWS1	% Rec	BSD RPD	QC Limit
Mercury	2.7	3	90.0	80-120	2.7	3	90.0	0.0	20

Associated samples MP19663: MC13829-7, MC13829-9

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested



10/12/12

Technical Report for

Loureiro Eng. Associates

UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

88UT230

Accutest Job Number: MC14490

Sampling Date: 09/27/12

Report to:

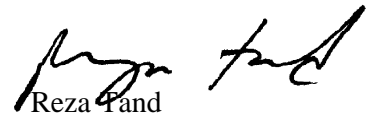
Loureiro Engineering Associates
100 Northwest Drive
Plainville, CT 06062
rlmckinney@loureiro.com

ATTN: Robin McKinney

Total number of pages in report: **59**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.


Reza Pand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Test results relate only to samples analyzed.

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Sample Summary

Loureiro Eng. Associates

Job No: MC14490

UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT
Project No: 88UT230

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC14490-1	09/27/12	10:10 RH	09/28/12	AQ	Ground Water	1250517
MC14490-2	09/27/12	10:10 RH	09/28/12	AQ	Ground Water	1250517UF
MC14490-3	09/27/12	08:57 RH	09/28/12	AQ	Ground Water	1266371
MC14490-4	09/27/12	09:00 RH	09/28/12	AQ	Ground Water	1266372UF
MC14490-5	09/27/12	09:45 RH	09/28/12	AQ	Ground Water	1266373
MC14490-6	09/27/12	10:30 RH	09/28/12	AQ	Ground Water	1266374

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Loureiro Eng. Associates

Job No MC14490

Site: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford,

Report Date 10/12/2012 6:00:42 PM

6 Sample(s) were collected on 09/27/2012 and were received at Accutest on 09/28/2012 properly preserved, at 2.2 Deg. C and intact. These Samples received an Accutest job number of MC14490. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ

Batch ID: MSP2135

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Blank Spike Recovery(s) for Dichlorodifluoromethane, Methyl Tert Butyl Ether are outside control limits. Blank Spike meets program technical requirements.
- Initial calibration verification standard MSP2106-ICV2106 for acetone exceed 35% Difference.
- Continuing calibration check standard MSP2135-CC2106 for dichlorodifluoromethane exceed 30% Difference. This check standard met RCP criteria.
- Quadratic regression is employed for initial calibration standard in batch MSP2106-ICC2106 for 1,1,2-trichloroethane, 1,3-dichloropropane, bromoform, 1,2-dibromo-3-chloropropane.

Matrix: AQ

Batch ID: MSP2137

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Blank Spike Recovery(s) for Methyl Tert Butyl Ether are outside control limits. Blank Spike meets program technical requirements.
- MSP2137-BS for Chloromethane: Outside control limits. Associated samples are non-detect for this compound.
- Continuing calibration check standard MSP2137-CC2106 for chloromethane, methyl tert butyl ether exceed 30% Difference. This check standard met RCP criteria.

Matrix: AQ

Batch ID: MSP2139

- All method blanks for this batch meet method specific criteria.
- The following samples were run outside of holding time for method SW846 8260B: MC14490-3

Extractables by GC By Method CT-ETPH 7/06

Matrix: AQ

Batch ID: OP30560

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Extractables by GC By Method SW846 8082**Matrix:** AQ**Batch ID:** OP30534

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010C**Matrix:** AQ**Batch ID:** MP19760

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC14478-4SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Copper, Lead, Nickel are outside control limits for sample MP19760-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MP19760-SD1 for Zinc: Serial dilution indicates possible matrix interference.
- Only selected metals requested.

Metals By Method SW846 7470A**Matrix:** AQ**Batch ID:** MP19815

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report (MC14490).

Summary of Hits

Page 1 of 1

Job Number: MC14490

Account: Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Collected: 09/27/12



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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MC14490-1 1250517

No hits reported in this sample.

MC14490-2 1250517UF

Barium	67.9	50		ug/l	SW846 6010C
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MC14490-3 1266371

Chloroform	2.6	1.0		ug/l	SW846 8260B
cis-1,2-Dichloroethene	349	25		ug/l	SW846 8260B
trans-1,2-Dichloroethene	228	1.0		ug/l	SW846 8260B
Tetrachloroethene	142	1.0		ug/l	SW846 8260B
Trichloroethene	288	25		ug/l	SW846 8260B
Vinyl chloride	327	1.0		ug/l	SW846 8260B

MC14490-4 1266372UF

Arsenic	6.7	4.0		ug/l	SW846 6010C
Barium	388	50		ug/l	SW846 6010C
Cadmium	93.7	4.0		ug/l	SW846 6010C
Chromium	200	10		ug/l	SW846 6010C
Copper	39.6	25		ug/l	SW846 6010C
Nickel	581	40		ug/l	SW846 6010C
Zinc	30.0	20		ug/l	SW846 6010C

MC14490-5 1266373

Aroclor 1248	1.0	0.25		ug/l	SW846 8082
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MC14490-6 1266374

CT-ETPH (C9-C36)	0.706	0.080		mg/l	CT-ETPH 7/06
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Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	1250517	Date Sampled:	09/27/12
Lab Sample ID:	MC14490-1	Date Received:	09/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P65294.D	1	10/10/12	TT	n/a	n/a	MSP2135
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1250517	Date Sampled:	09/27/12
Lab Sample ID:	MC14490-1	Date Received:	09/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	118%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1250517	Date Sampled:	09/27/12
Lab Sample ID:	MC14490-1	Date Received:	09/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	97%		70-130%
460-00-4	4-Bromofluorobenzene	98%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	1250517	Date Sampled:	09/27/12
Lab Sample ID:	MC14490-1	Date Received:	09/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	CT-ETPH 7/06 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BJ14310.D	1	10/05/12	NB	10/03/12	OP30560	GBJ528
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.082	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	79%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1250517	Date Sampled:	09/27/12
Lab Sample ID:	MC14490-1	Date Received:	09/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK17372.D	1	10/03/12	AP	10/01/12	OP30534	GBK645
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.25	ug/l	
11141-16-5	Aroclor 1232	ND	0.25	ug/l	
53469-21-9	Aroclor 1242	ND	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.25	ug/l	
37324-23-5	Aroclor 1262	ND	0.25	ug/l	
11100-14-4	Aroclor 1268	ND	0.25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	93%		30-150%
877-09-8	Tetrachloro-m-xylene	97%		30-150%
2051-24-3	Decachlorobiphenyl	73%		30-150%
2051-24-3	Decachlorobiphenyl	76%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1250517UF	Date Sampled:	09/27/12
Lab Sample ID:	MC14490-2	Date Received:	09/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³
Barium	67.9	50	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³
Chromium	< 10	10	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³
Copper	< 25	25	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	10/09/12	10/10/12 EM	SW846 7470A ²	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³
Selenium	< 10	10	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³
Zinc	< 20	20	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³

(1) Instrument QC Batch: MA14783

(2) Instrument QC Batch: MA14811

(3) Prep QC Batch: MP19760

(4) Prep QC Batch: MP19815

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1266371	Date Sampled:	09/27/12
Lab Sample ID:	MC14490-3	Date Received:	09/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P65334.D	1	10/11/12	TT	n/a	n/a	MSP2137
Run #2	P65375.D	25	10/12/12	TT	n/a	n/a	MSP2139

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	2.6	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	349 ^a	25	ug/l	
156-60-5	trans-1,2-Dichloroethene	228	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1266371	Date Sampled: 09/27/12
Lab Sample ID: MC14490-3	Date Received: 09/28/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT	

VOA RCP List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	142	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	288 ^a	25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	327	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%	109%	70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1266371	Date Sampled:	09/27/12
Lab Sample ID:	MC14490-3	Date Received:	09/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

VOA RCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	93%	88%	70-130%
460-00-4	4-Bromofluorobenzene	94%	92%	70-130%

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1266372UF	Date Sampled: 09/27/12
Lab Sample ID: MC14490-4	Date Received: 09/28/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.7	4.0	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³
Barium	388	50	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³
Cadmium	93.7	4.0	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³
Chromium	200	10	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³
Copper	39.6	25	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	10/09/12	10/10/12 EM	SW846 7470A ²	SW846 7470A ⁴
Nickel	581	40	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³
Selenium	< 10	10	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³
Zinc	30.0	20	ug/l	1	10/02/12	10/02/12 EAL	SW846 6010C ¹	SW846 3010A ³

(1) Instrument QC Batch: MA14783

(2) Instrument QC Batch: MA14811

(3) Prep QC Batch: MP19760

(4) Prep QC Batch: MP19815

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1266373	Date Sampled:	09/27/12
Lab Sample ID:	MC14490-5	Date Received:	09/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8082 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK17373.D	1	10/03/12	AP	10/01/12	OP30534	GBK645
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	5.0 ml
Run #2		

CT Polychlorinated Biphenyls RCP List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.25	ug/l	
11141-16-5	Aroclor 1232	ND	0.25	ug/l	
53469-21-9	Aroclor 1242	ND	0.25	ug/l	
12672-29-6	Aroclor 1248	1.0	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.25	ug/l	
37324-23-5	Aroclor 1262	ND	0.25	ug/l	
11100-14-4	Aroclor 1268	ND	0.25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	86%		30-150%
877-09-8	Tetrachloro-m-xylene	90%		30-150%
2051-24-3	Decachlorobiphenyl	51%		30-150%
2051-24-3	Decachlorobiphenyl	55%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	1266374	Date Sampled:	09/27/12
Lab Sample ID:	MC14490-6	Date Received:	09/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	CT-ETPH 7/06 SW846 3510C		
Project:	UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BJ14314.D	1	10/05/12	NB	10/03/12	OP30560	GBJ528
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	0.706	0.080	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	68%		50-149%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- RCP Form
- Sample Tracking Chronicle

Client / Reporting Information Company Name: <u>Louise Engineering Associates</u> Street Address: <u>Plainville CT 06062</u> City: <u>Plainville</u> State: <u>CT</u> Zip: <u>06062</u> Project Contact: <u>Christine Venable</u> E-mail: <u>460-747-6161</u> Phone #: <u>460-747-6161</u> Fax #: <u></u> Sampler(s) Name(s): <u>Ryan Hudock</u> Phone #: <u></u>		Project Information Project Name: <u>Willow Brook GW monitoring</u> Street: <u></u> City: <u>East Hartford CT</u> Company Name: <u>SAME</u> Project#: <u>88UT230</u> Street Address: <u></u> Client PC#: <u></u> City: <u></u> State: <u></u> Zip: <u></u> Project Manager: <u>Robin McKinney</u> Attention: <u>↓</u> PO#: <u></u>		Requested Analysis (see TEST CODE sheet) Accutest Quote #: <u>FD1/2012-217</u> Accutest Job #: <u>MC14490</u> Matrix Codes: <u>VCs 8260</u> <u>CT ETPH</u> <u>POBS 8082</u> <u>ROR 8082 Ni Zn</u>		Matrix Codes: DW - Drinking Water GW - Ground Water WW - Wastewater SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank
Field ID / Point of Collection MECHDI Vial # Date Time Sampled by Matrix # of bottles ICI NaOH HNO3 H2SO4 NOME DI Water MCH LENCORE Blank/Min		Data Deliverable Information Turnaround Time (Business days) <input checked="" type="checkbox"/> Std. 10 Business Days <input type="checkbox"/> Std. 5 Business Days (By Contract only) <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY Approved By (Accutest PM): / Date: _____ <input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> FULLT1 (Level 3+4) <input checked="" type="checkbox"/> CT RCP <input type="checkbox"/> MA MCP <input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format <input type="checkbox"/> Other _____ Commercial "A" = Results Only Commercial "B" = Results + QC Summary		Comments / Special Instructions 5F19E 5EY		
Sample Custody must be documented below each time samples change possession, including courier delivery.						
Relinquished by Sampler: <u>1</u> Date Time: <u>9-28-12</u> Received By: <u>1</u> Date Time: <u></u>		Relinquished By: <u>2</u> Date Time: <u>9-28-12</u> Received By: <u>2</u> Date Time: <u></u>		Relinquished By: <u>3</u> Date Time: <u></u> Received By: <u>3</u> Date Time: <u></u>		
Relinquished by Sampler: <u>3</u> Date Time: <u></u> Received By: <u>3</u> Date Time: <u></u>		Relinquished By: <u>4</u> Date Time: <u></u> Received By: <u>4</u> Date Time: <u></u>		Relinquished By: <u>5</u> Date Time: <u></u> Received By: <u>5</u> Date Time: <u></u>		
Relinquished by Sampler: <u>5</u> Date Time: <u></u> Received By: <u>5</u> Date Time: <u></u>		Relinquished By: <u>5</u> Date Time: <u></u> Received By: <u>5</u> Date Time: <u></u>		Relinquished By: <u>5</u> Date Time: <u></u> Received By: <u>5</u> Date Time: <u></u>		

MC14490: Chain of Custody

Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC14490

Client: LEA

Immediate Client Services Action Required: No

Date / Time Received: 9/28/2012

Delivery Method:

Client Service Action Required at Login: No

Project: WILLOW BROOK GW

No. Coolers: 1

Airbill #'s:

Cooler Security

Y or N

Y or N

- | | | | | | |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Cooler Temperature

Y or N

- | | | |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Cooler temp verification: | Infrared gun | |
| 3. Cooler media: | Ice (bag) | |

Quality Control Preservation

Y or N

N/A

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Samples preserved properly: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. VOCs headspace free: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Sample Integrity - Documentation

Y or N

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Sample Integrity - Condition

Y or N

- | | | |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of sample: | Intact | |

Sample Integrity - Instructions

Y or N N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3. Sufficient volume recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. Compositing instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www.accutest.com

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Laboratory Name: Accutest New England Client: Loureiro Eng. Associates

Project Location: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT Project Number: 88UT230

Sampling Date(s): 9/27/2012

Laboratory Sample ID(s): MC14490-1, MC14490-2, MC14490-3, MC14490-4, MC14490-5, MC14490-6

Methods: CT-ETPH 7/06, SW846 6010C, SW846 7470A, SW846 8082, SW846 8260B

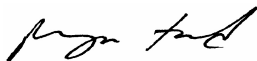
1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
1A	Where all the method specified preservation and holding time requirements met?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
1B	VPH and EPH methods only: Was the VPH or EPH method conducted without significant modifications (See section 11.3 of respective methods)	Yes <input type="checkbox"/>	No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
3	Were samples received at an appropriate temperature (<6° C)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
5	a) Were reporting limits specified or referenced on the chain-of-custody?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	b) Were these reporting limits met?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence".

I, the undersigned, attest under pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized

Signature:



Position: Lab Director

Printed Name: Reza Tand

Date: 10/12/2012

Accutest New England

Internal Sample Tracking Chronicle

Loureiro Eng. Associates

Job No: MC14490

UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Project No: 88UT230

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC14490-1 Collected: 27-SEP-12 10:10 By: RH Received: 28-SEP-12 By: 1250517						
MC14490-1	SW846 8082	03-OCT-12 02:34	AP	01-OCT-12	MT	P8082RCP
MC14490-1	CT-ETPH 7/06	05-OCT-12 03:22	NB	03-OCT-12	MT	BCTTPH
MC14490-1	SW846 8260B	10-OCT-12 17:13	TT			V8260RCP
MC14490-2 Collected: 27-SEP-12 10:10 By: RH Received: 28-SEP-12 By: 1250517UF						
MC14490-2	SW846 6010C	02-OCT-12 19:33	EAL	02-OCT-12	DA	AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC14490-2	SW846 7470A	10-OCT-12 13:23	EM	09-OCT-12	EM	HG
MC14490-3 Collected: 27-SEP-12 08:57 By: RH Received: 28-SEP-12 By: 1266371						
MC14490-3	SW846 8260B	11-OCT-12 11:51	TT			V8260RCP
MC14490-3	SW846 8260B	12-OCT-12 14:16	TT			V8260RCP
MC14490-4 Collected: 27-SEP-12 09:00 By: RH Received: 28-SEP-12 By: 1266372UF						
MC14490-4	SW846 6010C	02-OCT-12 19:38	EAL	02-OCT-12	DA	AG,AS,BA,CD,CR,CU,NI,PB,SE, ZN
MC14490-4	SW846 7470A	10-OCT-12 13:26	EM	09-OCT-12	EM	HG
MC14490-5 Collected: 27-SEP-12 09:45 By: RH Received: 28-SEP-12 By: 1266373						
MC14490-5	SW846 8082	03-OCT-12 02:53	AP	01-OCT-12	MT	P8082RCP
MC14490-6 Collected: 27-SEP-12 10:30 By: RH Received: 28-SEP-12 By: 1266374						
MC14490-6	CT-ETPH 7/06	05-OCT-12 04:21	NB	03-OCT-12	MT	BCTTPH

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Page 1 of 3

Job Number: MC14490**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2135-MB	P65277.D	1	10/10/12	TT	n/a	n/a	MSP2135

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC14490-1

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	

Method Blank Summary

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Job Number: MC14490**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2135-MB	P65277.D	1	10/10/12	TT	n/a	n/a	MSP2135

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC14490-1

CAS No.	Compound	Result	RL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

Method Blank Summary

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Job Number: MC14490

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2135-MB	P65277.D	1	10/10/12	TT	n/a	n/a	MSP2135

The QC reported here applies to the following samples:

Method: SW846 8260B

MC14490-1

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	105% 70-130%
2037-26-5	Toluene-D8	93% 70-130%
460-00-4	4-Bromofluorobenzene	100% 70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

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Job Number: MC14490**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2137-MB	P65329.D	1	10/11/12	TT	n/a	n/a	MSP2137

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC14490-3

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	

Method Blank Summary

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Job Number: MC14490**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2137-MB	P65329.D	1	10/11/12	TT	n/a	n/a	MSP2137

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC14490-3

CAS No.	Compound	Result	RL	Units	Q
100-41-4	Ethylbenzene	ND	1.0	ug/l	
76-13-1	Freon 113	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	108% 70-130%
2037-26-5	Toluene-D8	94% 70-130%

Method Blank Summary

Job Number: MC14490
Account: LEA Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2137-MB	P65329.D	1	10/11/12	TT	n/a	n/a	MSP2137

The QC reported here applies to the following samples: Method: SW846 8260B

MC14490-3

CAS No.	Surrogate Recoveries	Limits
460-00-4	4-Bromofluorobenzene	97% 70-130%

Method Blank Summary

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Job Number: MC14490

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2139-MB	P65364.D	1	10/12/12	TT	n/a	n/a	MSP2139

The QC reported here applies to the following samples:

Method: SW846 8260B

MC14490-3

CAS No.	Compound	Result	RL	Units	Q
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	114% 70-130%
2037-26-5	Toluene-D8	95% 70-130%
460-00-4	4-Bromofluorobenzene	97% 70-130%

Blank Spike Summary

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Job Number: MC14490**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2135-BS	P65275.D	1	10/10/12	TT	n/a	n/a	MSP2135

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC14490-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	50.2	100	70-130
107-13-1	Acrylonitrile	50	62.4	125	70-130
71-43-2	Benzene	50	48.3	97	70-130
108-86-1	Bromobenzene	50	47.6	95	70-130
75-27-4	Bromodichloromethane	50	54.2	108	70-130
75-25-2	Bromoform	50	39.3	79	70-130
74-83-9	Bromomethane	50	47.9	96	70-130
78-93-3	2-Butanone (MEK)	50	50.8	102	70-130
104-51-8	n-Butylbenzene	50	51.3	103	70-130
135-98-8	sec-Butylbenzene	50	50.7	101	70-130
98-06-6	tert-Butylbenzene	50	48.8	98	70-130
75-15-0	Carbon disulfide	50	58.9	118	70-130
56-23-5	Carbon tetrachloride	50	50.9	102	70-130
108-90-7	Chlorobenzene	50	52.3	105	70-130
75-00-3	Chloroethane	50	64.1	128	70-130
67-66-3	Chloroform	50	55.8	112	70-130
74-87-3	Chloromethane	50	61.7	123	70-130
95-49-8	o-Chlorotoluene	50	48.5	97	70-130
106-43-4	p-Chlorotoluene	50	52.6	105	70-130
96-12-8	1,2-Dibromo-3-chloropropane	50	54.7	109	70-130
124-48-1	Dibromochloromethane	50	46.1	92	70-130
106-93-4	1,2-Dibromoethane	50	50.7	101	70-130
95-50-1	1,2-Dichlorobenzene	50	51.0	102	70-130
541-73-1	1,3-Dichlorobenzene	50	51.4	103	70-130
106-46-7	1,4-Dichlorobenzene	50	48.9	98	70-130
75-71-8	Dichlorodifluoromethane	50	68.5	137* a	70-130
75-34-3	1,1-Dichloroethane	50	54.8	110	70-130
107-06-2	1,2-Dichloroethane	50	52.8	106	70-130
75-35-4	1,1-Dichloroethene	50	58.6	117	70-130
156-59-2	cis-1,2-Dichloroethene	50	52.5	105	70-130
156-60-5	trans-1,2-Dichloroethene	50	47.9	96	70-130
78-87-5	1,2-Dichloropropane	50	54.1	108	70-130
142-28-9	1,3-Dichloropropane	50	42.6	85	70-130
594-20-7	2,2-Dichloropropane	50	41.3	83	70-130
563-58-6	1,1-Dichloropropene	50	52.4	105	70-130
10061-01-5	cis-1,3-Dichloropropene	50	49.8	100	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC14490**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2135-BS	P65275.D	1	10/10/12	TT	n/a	n/a	MSP2135

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC14490-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	47.8	96	70-130
100-41-4	Ethylbenzene	50	47.1	94	70-130
76-13-1	Freon 113	50	52.4	105	70-130
87-68-3	Hexachlorobutadiene	50	62.4	125	70-130
591-78-6	2-Hexanone	50	55.7	111	70-130
98-82-8	Isopropylbenzene	50	49.4	99	70-130
99-87-6	p-Isopropyltoluene	50	49.2	98	70-130
1634-04-4	Methyl Tert Butyl Ether	50	21.0	42* a	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	56.6	113	70-130
74-95-3	Methylene bromide	50	52.2	104	70-130
75-09-2	Methylene chloride	50	52.2	104	70-130
91-20-3	Naphthalene	50	62.1	124	70-130
103-65-1	n-Propylbenzene	50	49.3	99	70-130
100-42-5	Styrene	50	43.5	87	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	49.7	99	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	47.6	95	70-130
127-18-4	Tetrachloroethene	50	50.4	101	70-130
109-99-9	Tetrahydrofuran	50	52.4	105	70-130
108-88-3	Toluene	50	49.7	99	70-130
110-57-6	Trans-1,4-Dichloro-2-Butene	50	57.3	115	70-130
87-61-6	1,2,3-Trichlorobenzene	50	59.1	118	70-130
120-82-1	1,2,4-Trichlorobenzene	50	57.4	115	70-130
71-55-6	1,1,1-Trichloroethane	50	50.4	101	70-130
79-00-5	1,1,2-Trichloroethane	50	44.5	89	70-130
79-01-6	Trichloroethene	50	50.5	101	70-130
75-69-4	Trichlorofluoromethane	50	54.2	108	70-130
96-18-4	1,2,3-Trichloropropane	50	45.8	92	70-130
95-63-6	1,2,4-Trimethylbenzene	50	44.3	89	70-130
108-67-8	1,3,5-Trimethylbenzene	50	44.4	89	70-130
75-01-4	Vinyl chloride	50	56.7	113	70-130
	m,p-Xylene	100	101	101	70-130
95-47-6	o-Xylene	50	53.3	107	70-130

* = Outside of Control Limits.

Blank Spike Summary

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Job Number: MC14490

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2135-BS	P65275.D	1	10/10/12	TT	n/a	n/a	MSP2135

The QC reported here applies to the following samples:

Method: SW846 8260B

MC14490-1

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	70-130%
2037-26-5	Toluene-D8	95%	70-130%
460-00-4	4-Bromofluorobenzene	98%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Blank Spike Summary

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Job Number: MC14490**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2137-BS	P65327.D	1	10/11/12	TT	n/a	n/a	MSP2137

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC14490-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	47.9	96	70-130
107-13-1	Acrylonitrile	50	54.4	109	70-130
71-43-2	Benzene	50	47.2	94	70-130
108-86-1	Bromobenzene	50	45.9	92	70-130
75-27-4	Bromodichloromethane	50	53.8	108	70-130
75-25-2	Bromoform	50	38.2	76	70-130
74-83-9	Bromomethane	50	50.0	100	70-130
78-93-3	2-Butanone (MEK)	50	51.8	104	70-130
104-51-8	n-Butylbenzene	50	45.7	91	70-130
135-98-8	sec-Butylbenzene	50	44.9	90	70-130
98-06-6	tert-Butylbenzene	50	43.7	87	70-130
75-15-0	Carbon disulfide	50	57.9	116	70-130
56-23-5	Carbon tetrachloride	50	48.0	96	70-130
108-90-7	Chlorobenzene	50	50.1	100	70-130
75-00-3	Chloroethane	50	60.0	120	70-130
67-66-3	Chloroform	50	56.2	112	70-130
74-87-3	Chloromethane	50	65.3	131* a	70-130
95-49-8	o-Chlorotoluene	50	44.8	90	70-130
106-43-4	p-Chlorotoluene	50	49.0	98	70-130
96-12-8	1,2-Dibromo-3-chloropropane	50	51.0	102	70-130
124-48-1	Dibromochloromethane	50	44.5	89	70-130
106-93-4	1,2-Dibromoethane	50	48.8	98	70-130
95-50-1	1,2-Dichlorobenzene	50	48.6	97	70-130
541-73-1	1,3-Dichlorobenzene	50	48.2	96	70-130
106-46-7	1,4-Dichlorobenzene	50	46.7	93	70-130
75-71-8	Dichlorodifluoromethane	50	62.2	124	70-130
75-34-3	1,1-Dichloroethane	50	54.7	109	70-130
107-06-2	1,2-Dichloroethane	50	52.3	105	70-130
75-35-4	1,1-Dichloroethene	50	56.0	112	70-130
156-60-5	trans-1,2-Dichloroethene	50	48.4	97	70-130
78-87-5	1,2-Dichloropropane	50	53.3	107	70-130
142-28-9	1,3-Dichloropropane	50	41.1	82	70-130
594-20-7	2,2-Dichloropropane	50	42.0	84	70-130
563-58-6	1,1-Dichloropropene	50	48.4	97	70-130
10061-01-5	cis-1,3-Dichloropropene	50	49.9	100	70-130
10061-02-6	trans-1,3-Dichloropropene	50	48.1	96	70-130

* = Outside of Control Limits.

Blank Spike Summary

Page 2 of 3

Job Number: MC14490**Account:** LEA Loureiro Eng. Associates**Project:** UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2137-BS	P65327.D	1	10/11/12	TT	n/a	n/a	MSP2137

The QC reported here applies to the following samples:**Method:** SW846 8260B

MC14490-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
100-41-4	Ethylbenzene	50	44.8	90	70-130
76-13-1	Freon 113	50	49.6	99	70-130
87-68-3	Hexachlorobutadiene	50	56.3	113	70-130
591-78-6	2-Hexanone	50	52.2	104	70-130
98-82-8	Isopropylbenzene	50	45.1	90	70-130
99-87-6	p-Isopropyltoluene	50	44.5	89	70-130
1634-04-4	Methyl Tert Butyl Ether	50	25.8	52* b	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	54.3	109	70-130
74-95-3	Methylene bromide	50	51.6	103	70-130
75-09-2	Methylene chloride	50	51.8	104	70-130
91-20-3	Naphthalene	50	58.5	117	70-130
103-65-1	n-Propylbenzene	50	44.8	90	70-130
100-42-5	Styrene	50	42.5	85	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	48.5	97	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	44.3	89	70-130
127-18-4	Tetrachloroethene	50	47.1	94	70-130
109-99-9	Tetrahydrofuran	50	51.4	103	70-130
108-88-3	Toluene	50	48.6	97	70-130
110-57-6	Trans-1,4-Dichloro-2-Butene	50	58.7	117	70-130
87-61-6	1,2,3-Trichlorobenzene	50	55.4	111	70-130
120-82-1	1,2,4-Trichlorobenzene	50	52.9	106	70-130
71-55-6	1,1,1-Trichloroethane	50	49.8	100	70-130
79-00-5	1,1,2-Trichloroethane	50	44.5	89	70-130
75-69-4	Trichlorofluoromethane	50	51.6	103	70-130
96-18-4	1,2,3-Trichloropropane	50	43.3	87	70-130
95-63-6	1,2,4-Trimethylbenzene	50	40.8	82	70-130
108-67-8	1,3,5-Trimethylbenzene	50	40.7	81	70-130
75-01-4	Vinyl chloride	50	54.5	109	70-130
	m,p-Xylene	100	95.6	96	70-130
95-47-6	o-Xylene	50	50.6	101	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	106%	70-130%
2037-26-5	Toluene-D8	94%	70-130%

* = Outside of Control Limits.

Blank Spike Summary

Page 3 of 3

Job Number: MC14490

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2137-BS	P65327.D	1	10/11/12	TT	n/a	n/a	MSP2137

The QC reported here applies to the following samples:

Method: SW846 8260B

MC14490-3

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	92%	70-130%

(a) Outside control limits. Associated samples are non-detect for this compound.

(b) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: MC14490

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2139-BS	P65362.D	1	10/12/12	TT	n/a	n/a	MSP2139

The QC reported here applies to the following samples:

Method: SW846 8260B

MC14490-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
156-59-2	cis-1,2-Dichloroethene	50	55.4	111	70-130
79-01-6	Trichloroethene	50	53.2	106	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	118%	70-130%
2037-26-5	Toluene-D8	103%	70-130%
460-00-4	4-Bromofluorobenzene	101%	70-130%

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: MC14490

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Check Std: MSP2135-CC2106

Injection Date: 10/10/12

Lab File ID: P65275.D

Injection Time: 08:27

Instrument ID: GCMSXP

Method: SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	401771	8.51	708025	9.37	384169	12.61	359612	15.17	116504	6.12
Upper Limit ^a	803542	9.01	1416050	9.87	768338	13.11	719224	15.67	233008	6.62
Lower Limit ^b	200886	8.01	354013	8.87	192085	12.11	179806	14.67	58252	5.62

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSP2135-BS	401771	8.51	708025	9.37	384169	12.61	359612	15.17	116504	6.12
MSP2135-MB	373208	8.52	663581	9.37	339232	12.61	293823	15.17	93273	6.13
ZZZZZZ	342592	8.52	612050	9.37	312637	12.61	277514	15.17	95443	6.13
ZZZZZZ	358022	8.52	638860	9.37	331568	12.61	287916	15.17	90027	6.12
ZZZZZZ	347159	8.52	625724	9.38	324301	12.61	277910	15.17	103427	6.13
ZZZZZZ	322409	8.52	579662	9.37	299692	12.61	256437	15.17	95749	6.13
ZZZZZZ	322127	8.52	582507	9.37	301486	12.61	268653	15.17	83529	6.12
ZZZZZZ	329047	8.52	590779	9.37	308271	12.61	264896	15.17	89473	6.13
ZZZZZZ	319606	8.52	580293	9.37	300720	12.61	260882	15.17	88654	6.13
ZZZZZZ	311215	8.52	560980	9.37	291909	12.61	252828	15.17	94404	6.13
ZZZZZZ	313578	8.52	564930	9.37	295104	12.61	251488	15.17	83426	6.12
ZZZZZZ	308614	8.52	554168	9.37	287879	12.61	246434	15.17	81995	6.12
ZZZZZZ	299749	8.52	543275	9.37	285107	12.61	252199	15.17	84343	6.12
ZZZZZZ	296267	8.52	538059	9.37	279635	12.61	240098	15.17	92566	6.13
ZZZZZZ	276717	8.52	502245	9.37	259938	12.61	226742	15.17	80631	6.12
ZZZZZZ	284932	8.52	519364	9.37	270400	12.61	234984	15.17	84778	6.14
ZZZZZZ	277182	8.52	498026	9.38	259633	12.61	226805	15.17	77676	6.13
ZZZZZZ	275711	8.52	501446	9.37	261790	12.61	228472	15.17	84185	6.13
MC14490-1	269329	8.52	484589	9.38	253030	12.61	219080	15.17	77489	6.13
ZZZZZZ	268840	8.52	488600	9.37	263366	12.61	253104	15.17	88076	6.12
ZZZZZZ	314359	8.51	564623	9.37	317215	12.61	350302	15.17	115657	6.12
ZZZZZZ	386257	8.51	682621	9.37	373657	12.61	391374	15.17	144178	6.13
ZZZZZZ	409872	8.52	721855	9.37	375715	12.61	343106	15.17	134063	6.13

IS 1 = Pentafluorobenzene

IS 2 = 1,4-Difluorobenzene

IS 3 = Chlorobenzene-D5

IS 4 = 1,4-Dichlorobenzene-d4

IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: MC14490

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Check Std: MSP2137-CC2106

Injection Date: 10/11/12

Lab File ID: P65327.D

Injection Time: 08:35

Instrument ID: GCMSIP

Method: SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	388566	8.51	701066	9.37	391748	12.61	373516	15.17	122293	6.12
Upper Limit ^a	777132	9.01	1402132	9.87	783496	13.11	747032	15.67	244586	6.62
Lower Limit ^b	194283	8.01	350533	8.87	195874	12.11	186758	14.67	61147	5.62

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSP2137-BS	388566	8.51	701066	9.37	391748	12.61	373516	15.17	122293	6.12
MSP2137-MB	357062	8.52	645766	9.37	341636	12.61	303769	15.17	103617	6.14
ZZZZZZ	333611	8.52	610229	9.37	324802	12.61	291330	15.17	100803	6.13
ZZZZZZ	320649	8.52	584576	9.37	312043	12.61	278592	15.17	94731	6.12
ZZZZZZ	310029	8.52	568592	9.37	304678	12.61	269073	15.17	93640	6.12
ZZZZZZ	295657	8.52	545909	9.37	292874	12.61	254957	15.17	86281	6.12
MC14490-3	308388	8.51	559440	9.37	302114	12.61	262163	15.17	94712	6.13
ZZZZZZ	273783	8.52	503397	9.38	271120	12.61	235312	15.17	75461	6.14
ZZZZZZ	269975	8.52	502126	9.37	270117	12.61	234844	15.17	82765	6.13
ZZZZZZ	276244	8.52	509084	9.37	272088	12.61	237336	15.17	87043	6.13
ZZZZZZ	266688	8.52	494814	9.37	265419	12.61	238403	15.17	93299	6.13
ZZZZZZ	270606	8.52	499099	9.37	276198	12.61	249424	15.17	82821	6.13
ZZZZZZ	264044	8.52	487186	9.37	265188	12.61	229838	15.17	80269	6.12
ZZZZZZ	268978	8.52	497886	9.37	268872	12.61	233787	15.17	81174	6.13
ZZZZZZ	262005	8.52	485489	9.38	262306	12.61	229579	15.17	79195	6.13
ZZZZZZ	252158	8.52	471347	9.37	256884	12.61	225301	15.17	81536	6.12
ZZZZZZ	315579	8.51	576303	9.37	314519	12.61	328174	15.17	103925	6.12
ZZZZZZ	308462	8.51	563860	9.37	303537	12.61	287894	15.17	119446	6.12
ZZZZZZ	315235	8.51	569849	9.37	304646	12.61	281882	15.17	123029	6.13

IS 1 = Pentafluorobenzene

IS 2 = 1,4-Difluorobenzene

IS 3 = Chlorobenzene-D5

IS 4 = 1,4-Dichlorobenzene-d4

IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: MC14490

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Check Std: MSP2139-CC2106

Injection Date: 10/12/12

Lab File ID: P65360.D

Injection Time: 07:23

Instrument ID: GCMSXP

Method: SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	316145	8.51	582477	9.37	345574	12.61	348427	15.17	94807	6.12
Upper Limit ^a	632290	9.01	1164954	9.87	691148	13.11	696854	15.67	189614	6.62
Lower Limit ^b	158073	8.01	291239	8.87	172787	12.11	174214	14.67	47404	5.62

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSP2139-BS	321815	8.51	584341	9.37	335323	12.61	320662	15.17	100185	6.12
MSP2139-MB	306990	8.52	573484	9.37	309048	12.61	271371	15.17	91469	6.13
ZZZZZZ	299369	8.52	558613	9.37	302581	12.61	268057	15.17	93936	6.12
ZZZZZZ	303590	8.51	560802	9.37	311675	12.61	284520	15.17	100131	6.12
ZZZZZZ	286212	8.52	535423	9.37	291391	12.61	255467	15.17	81417	6.12
ZZZZZZ	290546	8.52	541840	9.37	297136	12.61	256936	15.17	79516	6.13
ZZZZZZ	279876	8.52	517539	9.37	282340	12.61	249788	15.17	81384	6.13
ZZZZZZ	281288	8.52	524382	9.37	287317	12.61	250872	15.17	84931	6.12
ZZZZZZ	257164	8.52	482595	9.38	262245	12.61	228996	15.17	70464	6.13
ZZZZZZ	273104	8.51	515043	9.37	286487	12.61	253858	15.17	81392	6.12
ZZZZZZ	270661	8.52	511203	9.37	292069	12.61	254612	15.17	79149	6.12
ZZZZZZ	265854	8.52	498207	9.37	275395	12.61	245673	15.17	86485	6.13
MC14490-3	284743	8.51	531729	9.37	289401	12.61	249424	15.17	91272	6.12

IS 1 = Pentafluorobenzene

IS 2 = 1,4-Difluorobenzene

IS 3 = Chlorobenzene-D5

IS 4 = 1,4-Dichlorobenzene-d4

IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Page 1 of 1

Job Number: MC14490

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Method: SW846 8260B

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC14490-1	P65294.D	118.0	97.0	98.0
MC14490-3	P65334.D	111.0	93.0	94.0
MC14490-3	P65375.D	109.0	88.0	92.0
MSP2135-BS	P65275.D	105.0	95.0	98.0
MSP2135-MB	P65277.D	105.0	93.0	100.0
MSP2137-BS	P65327.D	106.0	94.0	92.0
MSP2137-MB	P65329.D	108.0	94.0	97.0
MSP2139-BS	P65362.D	118.0	103.0	101.0
MSP2139-MB	P65364.D	114.0	95.0	97.0

Surrogate Compounds

Recovery Limits

S1 = Dibromofluoromethane

70-130%

S2 = Toluene-D8

70-130%

S3 = 4-Bromofluorobenzene

70-130%

6.4.1

6

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Page 1 of 1

Job Number: MC14490

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30560-MB	BJ14270.D	1	10/04/12	NB	10/03/12	OP30560	GBJ528

The QC reported here applies to the following samples:

Method: CT-ETPH 7/06

MC14490-1, MC14490-6

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.080	mg/l	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	72% 50-149%

Method Blank Summary

Page 1 of 1

Job Number: MC14490

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30534-MB	BK17330A.D1		10/02/12	AP	10/01/12	OP30534	GBK645

The QC reported here applies to the following samples:

Method: SW846 8082

MC14490-1, MC14490-5

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.25	ug/l	
11141-16-5	Aroclor 1232	ND	0.25	ug/l	
53469-21-9	Aroclor 1242	ND	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.25	ug/l	
37324-23-5	Aroclor 1262	ND	0.25	ug/l	
11100-14-4	Aroclor 1268	ND	0.25	ug/l	

CAS No.	Surrogate Recoveries	Limits
877-09-8	Tetrachloro-m-xylene	84% 30-150%
877-09-8	Tetrachloro-m-xylene	94% 30-150%
2051-24-3	Decachlorobiphenyl	50% 30-150%
2051-24-3	Decachlorobiphenyl	55% 30-150%

Blank Spike Summary

Page 1 of 1

Job Number: MC14490

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30560-BS	BJ14272.D	1	10/04/12	NB	10/03/12	OP30560	GBJ528

The QC reported here applies to the following samples:

Method: CT-ETPH 7/06

MC14490-1, MC14490-6

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	CT-ETPH (C9-C36)	0.7	0.474	68	60-120

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	80%	50-149%

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: MC14490

Account: LEA Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30534-BS	BK17331A.D1		10/02/12	AP	10/01/12	OP30534	GBK645

The QC reported here applies to the following samples:

Method: SW846 8082

MC14490-1, MC14490-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
12674-11-2	Aroclor 1016	2	1.7	85	40-140
11104-28-2	Aroclor 1221		ND		40-140
11141-16-5	Aroclor 1232		ND		40-140
53469-21-9	Aroclor 1242		ND		40-140
12672-29-6	Aroclor 1248		ND		40-140
11097-69-1	Aroclor 1254		ND		40-140
11096-82-5	Aroclor 1260	2	1.6	80	40-140
37324-23-5	Aroclor 1262		ND		40-140
11100-14-4	Aroclor 1268		ND		40-140

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	82%	30-150%
877-09-8	Tetrachloro-m-xylene	93%	30-150%
2051-24-3	Decachlorobiphenyl	50%	30-150%
2051-24-3	Decachlorobiphenyl	56%	30-150%

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: MC14490
Account: LEA Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Method: CT-ETPH 7/06	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a
MC14490-1	BJ14310.D	79.0
MC14490-6	BJ14314.D	68.0
OP30560-BS	BJ14272.D	80.0
OP30560-MB	BJ14270.D	72.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	50-149%

(a) Recovery from GC signal #1

Semivolatile Surrogate Recovery Summary

Job Number: MC14490
Account: LEA Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Method: SW846 8082	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 a	S1 b	S2 a	S2 b
MC14490-1	BK17372.D	93.0	97.0	73.0	76.0
MC14490-5	BK17373.D	86.0	90.0	51.0	55.0
OP30534-BS	BK17331A.D	82.0	93.0	50.0	56.0
OP30534-MB	BK17330A.D	84.0	94.0	50.0	55.0

Surrogate Compounds	Recovery Limits
S1 = Tetrachloro-m-xylene	30-150%
S2 = Decachlorobiphenyl	30-150%

- (a) Recovery from GC signal #1
(b) Recovery from GC signal #2

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC14490
Account: LEA - Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP19760
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/02/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	13	21		
Antimony	6.0	.8	1.7		
Arsenic	4.0	.99	1.9	0.10	<4.0
Barium	50	.28	.65	0.40	<50
Beryllium	4.0	.13	.28		
Boron	100	.58	.59		
Cadmium	4.0	.19	.19	0.0	<4.0
Calcium	5000	34	36		
Chromium	10	.6	.83	0.20	<10
Cobalt	50	.15	.4		
Copper	25	.85	1.4	0.0	<25
Gold	50	1.8	2.7		
Iron	100	4.2	11		
Lead	5.0	1.3	2.1	-0.60	<5.0
Magnesium	5000	36	60		
Manganese	15	.05	.54		
Molybdenum	100	.23	1.5		
Nickel	40	.25	.7	-0.20	<40
Palladium	50	2.4	7.9		
Platinum	50	6.6	19		
Potassium	5000	45	190		
Selenium	10	1.4	2	0.10	<10
Silicon	100	4.8	8.4		
Silver	5.0	.69	1.3	-0.10	<5.0
Sodium	5000	13	40		
Strontium	10	.11	.35		
Thallium	5.0	.99	1.4		
Tin	100	.34	.75		
Titanium	50	.55	.88		
Tungsten	100	5.9	14		
Vanadium	10	.95	1.3		
Zinc	20	.33	4	1.7	<20

Associated samples MP19760: MC14490-2, MC14490-4

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC14490
Account: LEA - Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP19760
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC14490

Account: LEA - Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP19760

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

10/02/12

10/02/12

Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony									
Arsenic	504	500	100.8	80-120	508	500	101.6	0.8	20
Barium	1970	2000	98.5	80-120	1990	2000	99.5	1.0	20
Beryllium									
Boron									
Cadmium	494	500	98.8	80-120	498	500	99.6	0.8	20
Calcium									
Chromium	513	500	102.6	80-120	519	500	103.8	1.2	20
Cobalt									
Copper	495	500	99.0	80-120	501	500	100.2	1.2	20
Gold									
Iron									
Lead	1000	1000	100.0	80-120	1010	1000	101.0	1.0	20
Magnesium									
Manganese									
Molybdenum									
Nickel	492	500	98.4	80-120	498	500	99.6	1.2	20
Palladium									
Platinum									
Potassium									
Selenium	467	500	93.4	80-120	468	500	93.6	0.2	20
Silicon									
Silver	203	200	101.5	80-120	207	200	103.5	2.0	20
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium									
Zinc	511	500	102.2	80-120	515	500	103.0	0.8	20

Associated samples MP19760: MC14490-2, MC14490-4

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC14490

Account: LEA - Loureiro Eng. Associates

Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP19760

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

8.1.2

8

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC14490
 Account: LEA - Loureiro Eng. Associates
 Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP19760
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 10/02/12

Metal	MC14478-4 Original SDL 1:5		%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium	9.90	10.4	5.1	0-10
Beryllium				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium				
Chromium	0.00	0.00	NC	0-10
Cobalt				
Copper	3.00	0.00	100.0 (a)	0-10
Gold				
Iron				
Lead	3.50	0.00	100.0 (a)	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel	0.800	0.00	100.0 (a)	0-10
Palladium				
Platinum				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc	30.8	41.9	36.0 (b)	0-10

Associated samples MP19760: MC14490-2, MC14490-4

8.1.3
8

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC14490
Account: LEA - Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP19760
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

(b) Serial dilution indicates possible matrix interference.

8.1.3

8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC14490
Account: LEA - Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

QC Batch ID: MP19815
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 10/09/12

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.20	.011	.062	0.026	<0.20

Associated samples MP19815: MC14490-2, MC14490-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

Login Number: MC14490
Account: LEA - Loureiro Eng. Associates
Project: UTC:P&W EH Willow Pond Groundwater Sampling, East Hartford, CT

Methods: SW846 7470A
Units: ug/l

10/09/12

Associated samples MP19815: MC14490-2, MC14490-4

8
8.2.2

Appendix C

Quality Assurance/Quality Control Documentation

APPENDIX C
QUALITY ASSURANCE/QUALITY CONTROL DOCUMENTATION

**2012 ANNUAL POST-REMEDATION
MAINTENANCE AND GROUNDWATER
MONITORING REPORT**

**United Technologies Corporation
Pratt & Whitney Division
Willow Brook and Willow Brook Pond
East Hartford, Connecticut**

December 2012

Prepared for

**UNITED TECHNOLOGIES CORPORATION
One Financial Plaza
Hartford, Connecticut 06101**

Prepared by

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An Employee Owned Company

Comm. No. 88UT2.30

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ATTACHMENTS

Attachment C-1	LEA Standard Operating Procedures
Attachment C-2	Performance Evaluation Sample Results
Attachment C-3	Data Quality Assessment Worksheets

ACRONYMS

CSM	Conceptual Site Model
DEEP	Connecticut Department of Energy and Environmental Protection
DQA	Data Quality Assessment
DQO	Data Quality Objective
DUE	Data Usability Evaluation
EDD	Electronic Data Deliverable
EPA	United States Environmental Protection Agency
ERA	Environmental Resource Associates
ETPH	Extractable Total Petroleum Hydrocarbons
LEA	Loureiro Engineering Associates, Inc.
LCS	Laboratory Control Sample
IMS	Information Management System
LEA	Loureiro Engineering Associates, Inc.
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PCBs	Polychlorinated Biphenyls
PE	Performance Evaluation
PID	Photoionization Detector
QA/QC	Quality Assurance/Quality Control
RCP	Reasonable Confidence Protocol
RPD	Relative Percent Difference
RSR	Remediation Standard Regulation
SOP	Standard Operating Procedure
TCE	Trichloroethylene
VOCs	Volatile Organic Compounds

UNITS

µg/l	micrograms per liter
------	----------------------

1. QUALITY ASSURANCE /QUALITY CONTROL SUMMARY

During the course of the 2012 Post-Remediation Groundwater Monitoring activities, analytical and observational data were obtained for the Willow Brook and Willow Brook Pond Remediation Area (hereinafter referred to as the “Project Area”). These data included analytical data for groundwater samples, field activities documentation, sample tracking documentation, and other documentation associated with sample collection and analysis.

During the course of groundwater monitoring activities, the need to maintain accurate and complete documentation was a paramount concern. Included in this document is a description of the activities undertaken to document, manage, verify, organize, and present the data compiled; a discussion of the types and quantities of Quality Assurance/Quality Control (QA/QC) samples that were collected during field activities; and an evaluation of the analytical data generated as a result of laboratory QA/QC procedures. The evaluation of laboratory QA/QC information includes a Data Quality Assessment (DQA) and a Data Usability Evaluation (DUE) that was performed in accordance with the methodology described in the November 2007 guidance document entitled, *Reasonable Confidence Protocols* and presented in more detail in the May 2009 document (revised December 2010) entitled *Laboratory Quality Assurance Quality Control, Data Quality Assessment, Data Usability Evaluation Guidance Document* published by the Connecticut Department of Energy and Environmental Protection (CT DEEP).

2. DATA MANAGEMENT PROCEDURES

This section has been organized to present those activities performed by personnel to document the record of post-remediation groundwater monitoring activities performed in the field and discuss the QA/QC activities performed in the field. These discussions are followed by a description of the activities undertaken by personnel in the office to ensure the necessary data have been accumulated, that the data have been properly managed, tracked, verified, entered into the database repository, presented appropriately, and at the conclusion of monitoring events, filed for future use.

2.1 Standard Operating Procedures

Prior to conducting groundwater monitoring activities for the Project Area, Standard Operating Procedures (SOPs) had been developed by Loureiro Engineering Associates, Inc. (LEA) for the most common procedures associated with the sampling and analysis of various media for environmental investigations. Development of these SOPs has taken into account the need for precision, accuracy, completeness, representativeness, and comparability of data.

Although it is understood that there are limits on data accuracy and precision that are inherent in the collection and analysis of samples and in the operation of measuring devices, adherence to standard procedures increases consistency and the level of confidence with which the data collected are evaluated. Data collected under standard procedures can also be used more reliably in comparing results over time on a given project or from other projects or published information.

Data evaluation is also dependent upon the representativeness of the samples or measurements collected and the completeness of information associated with collection of the data. Collection and measurement techniques identified in the SOPs have been designed to take these factors into account, thus increasing the level of confidence that can be placed in the data.

Although adherence to SOPs is imperative for the successful completion of any project, there will be instances where exceptions to the SOPs must be made to obtain reliable data. When exceptions are made, documentation of both the situation requiring deviation and the actual deviation in procedure was recorded in the field documentation.

Each SOP was developed by LEA personnel experienced in the performance of the specific activity. At least two senior-level people, one being the Director of Quality, reviewed the SOP

to ensure that the identified procedures satisfy the stated objectives and that the prescribed procedures are technically correct, appropriately applied, and in conformance with applicable regulatory criteria and standard practices. These individuals signified their approval by signing and dating the SOP.

SOPs for the following activities have been included as Attachment C-1 of this document.

- Low Flow Sampling;
- Liquid Sample Collection and Field Analysis; and
- Quality Assurance/Quality Control Measures for Field Activities.

2.2 Field Quality Assurance Procedures

Field QA/QC procedures begin with the use and maintenance of field equipment and instrumentation and include the proper calibration of the equipment.

2.2.1 Use and Maintenance of Field Equipment and Instrumentation

Field equipment and instruments were operated and maintained in a manner that is consistent with the manufacturer's recommended practices. Deviations from standard use of the equipment or required repairs or adaptations made in the field were noted in the Field Record and/or field logbook. Operation and maintenance manuals for equipment were kept in a single location that was known and accessible to personnel that would be likely to use the equipment.

Field personnel either returned equipment in a condition that permitted its optimal use on the following day of field operations, or notified the appropriate personnel so that repairs/replacements could be arranged in an expedient fashion. The use of expendable equipment was recorded and reported to appropriate personnel so replacements could be ordered in a timely manner and an adequate supply was available.

Prior to starting a particular field investigation, the field services manager or designated personnel ensured that adequate supplies and equipment were available for project completion. It was the responsibility of field personnel to inform the field services manager or other authorized personnel that supplies were depleted and that re-ordering was necessary.

2.2.2 Calibration Procedures and Frequency

Instruments and equipment were calibrated with sufficient frequency and in such a manner that accuracy and reproducibility of results were consistent with the appropriate manufacturer's specifications or project-specific requirements. Calibration was performed at intervals recommended by the manufacturer or more frequently, as conditions dictate. The field instruments that required calibration during the groundwater monitoring activities were the photoionization detector (PID); the pH, dissolved oxygen, and specific conductance sensors of the flow-through cells; and the turbidity meters. Documentation of the calibration that was performed was recorded on field documentation forms, analytical records, or other appropriate daily record of activities.

2.2.3 Decontamination

Decontamination procedures are described in applicable SOPs presented in Attachment C-1. These procedures were designed to avoid cross-contamination between samples, the transport of contaminated material between onsite locations, and the transport of contaminated material from onsite or off-site locations. As described in Section 3.2 of this appendix, equipment blank samples were collected to confirm the efficiency of decontamination procedures during groundwater sampling activities.

2.3 Sample Tracking

Sample tracking activities focus on the timely assignment and tracking of information relevant to field samples collected during the groundwater sampling activities. Samples collected during the groundwater sampling activities were designated using the procedures discussed below.

Field sample tracking included the following tasks:

- Assignment of sample identification numbers and other sample identifiers to new samples to be taken, and entry to a tracking system;
- Production of sample bottle labels from the tracking system;
- Completion of chain-of-custody forms, and entry of this information to the tracking system;
- Entry of additional tracking dates to the tracking system;
- QA checking of the sample tracking information, and processing of change requests; and,
- Production of tracking reports and summary sheets, with distribution to appropriate project staff.

A computer-based sample-tracking system, based on a dBase® database computer program, was used for sample tracking.

2.3.1 Sample Location Identification

Samples were designated with location identifiers previously assigned using the procedure described in the SOPs included in Attachment C-1. In general, sample identification information included the sample type (e.g. monitoring well.); and the sample point number.

Monitoring wells have been provided with location identifiers using a systematic method to prevent duplication of location identifiers. Additionally, a two letter prefix identifying the project area (in this case “WT”) was also included in the location identifiers. For example, monitoring well number 40 is designated as WT-MW-40.

The system of location identifiers provides a relatively easy means of finding the referenced locations on site drawings.

2.3.2 Sample Labeling and Custody

Prior to sample collection, project-specific sample numbers were obtained, and labels were generated with all required information, as noted in the sample collection SOPs. Each sample was labeled using waterproof ink on a computer-generated label, and sealed immediately after collection. At a minimum, each sample label contained the following information:

- Project number;
- Date;
- Sample number; and
- Time of sample collection.

In order to ensure accurate identification of all sample containers, sample labels and tags were firmly affixed to the sample container. The sampler was responsible for ensuring that the sample container was dry enough for the label to remain securely attached, or used a suitable transparent adhesive tape when the adhesive labels were not applicable or there was any question as to whether the gummed label would be secure.

All sampling information was recorded on the field sampling records. Written chain-of-custody procedures were followed whenever samples were collected, transferred, stored, analyzed, or

destroyed. The objective of these procedures was to create an accurate written record that could be used to trace the possession and handling of the samples from the point of collection through analysis. A sample was determined to be in someone's "custody" under any of the following conditions:

- It was in one's actual possession;
- It was in one's view, after being in one's physical possession;
- It was placed and kept in a locked location after being in one's physical possession; and
- It was kept in a secured area that is restricted to authorized personnel only.

Each time sample custody changed hands, the chain-of-custody form indicated that change. All efforts were made to limit the number of people involved in the collection and handling of samples. The field sampler was responsible for the care and custody of the samples collected until they were transferred under the appropriate chain-of-custody procedures. Specific chain-of-custody procedures are described in the LEA SOP for *Quality Assurance/Quality Control Measures for Field Activities* included in Attachment C-1 of this document.

2.3.3 Field Documentation

Daily Field Reports and other project information tracking forms were used to record general field data collection activities or pertinent field observation or occurrences. These forms consist of the loose-leaf field documentation forms completed daily by field crews. Entries were made in waterproof ink and each page was consecutively numbered for each sampling day. Each daily entry included the following information:

- Name of person recording information;
- Names of all field personnel;
- Project name and number;
- Date;
- Start and end times;
- Weather conditions;

- Equipment used;
- Samples collected;
- Field parameters measured; and,
- Equipment calibration performed.

Other information that was recorded in the field logs included the level of personal protective equipment used, difficulties, accidents, incidents, equipment problems or malfunctions, or deviations from proposed scope of work.

Any corrections made in the field logs were crossed out, not erased, and initialed by the person making the correction. Each page of the logs was signed by the person responsible for recording information on that day. All lines on a page, and all pages, were used or crossed out and initialed.

This information was transmitted from field to office personnel at the end of each working day, or as soon thereafter as possible, for input into LEA's Information Management System (IMS). The Daily Field Reports and forms, in turn, were placed in the central project file.

2.3.4 Mapping

The location of each monitoring well was previously surveyed by a State of Connecticut licensed surveyor. All of the information used to locate sampling points within the Project Area was transferred to AutoCAD® drawings that served as the base maps for data presentation in this report.

2.4 Field Sampling Quality Assurance

QA samples were collected in general accordance with the LEA SOP for *QA/QC Measures for Field Activities*, included in Attachment C-1 of this document. The purpose of the QA samples is to confirm the reliability and validity of the field data gathered during the course of the groundwater monitoring activities. Field duplicate samples were used to provide a measurement of the consistency of samples collected from the same monitoring well and an estimate of variance and bias. Trip blank samples and equipment blank samples were used to provide a measurement of cross-contamination sources and decontamination efficiency, respectively, for groundwater sampling. Performance Evaluation (PE) samples were used to assess the overall

accuracy and bias of the analytical methods being used and provide an indication of overall laboratory performance. Section 3 provides a discussion of the QA/QC sampling results.

2.5 Sample Shipping

Following sample collection, the filled sample containers were placed in coolers and packed appropriately to avoid bottle breakage. Either freezer packs or ice packed in re-sealable plastic bags or plastic containers were placed in the coolers to keep the samples at a temperature less than or equal to 4° Celsius during transport. At the end of each sampling day, samples were picked up by the analytical laboratory's courier service or brought back to LEA's Plainville, Connecticut, office and placed into LEA's External Laboratory Refrigerator for pick up the next day by the analytical laboratory's courier service.

2.5.1 Samples Submitted for Laboratory Analysis

Groundwater samples collected and submitted to the laboratory for analysis were appropriately labeled and logged on chain-of-custody forms. Copies of completed chain-of-custody records for samples submitted for analysis or archiving were submitted to the Project Manager at the end of each working day or as soon thereafter as possible.

2.5.2 Laboratory Analytical Results

The analytical results provided by the laboratory were provided in electronic data deliverable (EDD) format as well as .pdf format to the Project Manager. After documentation of receipt of the results, the EDD was entered into the electronic database by the Database Manager.

2.6 Database Management

The electronic analytical database was maintained in the LEA IMS in a dBASE® format. The database management functions are described in the following paragraphs.

2.6.1 Database Administration

Database administration included coordination of data entry and verification and review of data for completeness and correctness. The Database Manager interfaced with the Project Manager and field personnel to ensure that the database met the project objectives.

2.6.2 Electronic Data Entry

The EDD files provided by the analytical laboratory were uploaded to the electronic analytical database by the Database Manager. Data received from the laboratory in electronic format were checked for completeness by comparing data received with data analyses requested in the chain-of-custody forms. Analytical data were verified to assure the accuracy of the EDD, as compared to the analytical laboratory reports. Data verification involved having a qualified person other than the Database Manager manually check a printout from the electronic database against the laboratory reports. Any deviations from the laboratory reports were reported to the Database Manager, and the subsequent changes re-checked to verify their accuracy. In addition, the sample identification number, location, constituent, and qualifier codes were also verified.

2.6.3 Archiving of Electronic Data

Archiving of the electronic project database was routinely accomplished. Data were backed up on a no-less-than weekly basis. The permanent archive for the analytical and geological/hydrological data is both electronic and hard copy files maintained by LEA.

2.6.4 Data Verification

The field personnel performed an initial review of data obtained from field measurements. This review consisted of checking procedures utilized in the field, ensuring that field measurement instruments were properly calibrated, verifying the accuracy of transcriptions, and comparing data obtained in the field to historic measurements. Field records were subsequently reviewed following completion of each day's field activities for completeness and consistency.

An internal review of analytical data was the responsibility of laboratory personnel. The analyst initiated the data review process by examining and accepting the data. The data reviewer then reviewed the completed data package. The data reviewer provided a technical review for accuracy and precision according to the methods employed and laboratory protocols. The data package was also reviewed for completeness (i.e., all pertinent information is included, all appropriate forms are signed and dated, calculations are correct, and holding times and quality control sample acceptance criteria have been met). A final review of the data was provided by the Project Manager to ensure that the data package met the project specifications.

2.7 **Data Presentation**

The objective of data presentation was to illustrate the analytical data for the Project Area in formats that facilitated data interpretation and visualization. These formats include tables, figures, and drawings, as appropriate.

2.7.1 Analytical Data Presentation

Use of the electronic database for storage and retrieval of a wide range of both sample collection and analytical information maximized the ease and accuracy of data review and presentation. Tables of analytical and sampling information were produced in multiple formats to assist in the data evaluation process. Examples of analytical data presentations incorporated in this report include: tabular listings of analyses conducted, sorted by location and sample identification number, and summaries of exceedances of tabulated numeric criteria in the CT DEEP's Remediation Standard Regulations (RSRs).

2.7.2 Facility Drawings

Facility drawings were created using AutoCAD[®] software. Base maps were generated using available information provided by Pratt & Whitney.

2.8 **File Organization**

Files of original analytical data obtained during the groundwater monitoring events were maintained throughout data evaluation process and ultimately archived in a central file. Incoming data were logged into the project file both on the project analytical database and on hardcopy and then were appropriately placed in the file. Analytical results from the laboratories were keyed electronically to the sample identification numbers assigned during sample collection. Original field documentation forms, paper copies of laboratory reports, and other project files information were transferred from the project file to a designated archive location upon the completion of the project. Computerized data were stored in both hard copy and electronic back-up formats.

3. QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

QA/QC samples collected during the 2012 Post-Remediation Groundwater Monitoring Program included: duplicate groundwater samples; equipment blank samples; trip blank samples; and PE samples. The duplicate samples, equipment blanks, and PE samples were analyzed for the same suite of constituents as the field samples, and trip blanks were analyzed for volatile organic compounds (VOCs) only.

3.1 Field Duplicate Samples

Field duplicate samples were collected to provide a measure of the reproducibility of field sampling and laboratory analytical methodologies. Duplicate samples were coded in a fashion that did not alert the laboratory to the fact that the samples are replicates. Consistency between analytical results for field duplicate samples indicates consistent field sampling, sample handling, and analytical laboratory procedures. The consistency between field duplicate pairs is often measured by calculating the relative percent difference (RPD) for detects in a field duplicate pair when a compound was reported at greater than two times the sample quantitation limit in both samples. Field duplicate precision were met when the RPD was less than or equal to 30 percent for aqueous samples (which is based upon the United States Environmental Protection Agency (EPA) Region I Tier II Validation Guidance). If the RPD exceeded the acceptable limit, the affected compound(s) results were considered to be estimated values (no directional bias) and data usability was evaluated based on the project objectives. The RPD is calculated using the following formula:

$$RPD = \frac{|X_1 - X_2|}{(X_1 + X_2)/2} \times 100\%$$

where X_1 and X_2 represent the two reported concentration measurements.

One duplicate groundwater sample was collected during each monitoring event and was submitted for analysis for VOCs, extractable total petroleum hydrocarbons (ETPH), polychlorinated biphenyls (PCBs), Resource Conservation and Recovery Act (RCRA) 8 metals, copper, nickel and zinc. Field duplicates were submitted at a frequency of approximately one per fifteen samples, which met the QA/QC frequency objective of one field duplicate per twenty samples. A summary of field duplicate data for groundwater samples is presented in Table C-1, and a summary of constituents analyzed in duplicate groundwater samples with calculated RPDs is presented in Table C-2.

3.1.1 Volatile Organic Compounds

There were 16 instances in which duplicate pairs of compounds were reported at concentrations greater than two times the reporting limit. The RPDs for these sample pairs ranged from 1% to 70%. Only four of the duplicate pairs exceeded the RPD of 30%, indicating that 75% of the RPDs met the acceptance criterion.

3.1.2 Extractable Total Petroleum Hydrocarbons

There was one instance in which a duplicate pair of compounds was reported at concentrations greater than two times the reporting limit. The RPD for this sample pair was 3% thus indicating that 100% of the RPDs met the acceptance criterion.

3.1.3 Polychlorinated Biphenyls

PCBs were not detected in any duplicate groundwater sample collected. Therefore, a RPD assessment could not be performed.

3.1.4 Metals

There were two instances in which duplicate pairs of metals were reported at concentrations greater than two times the reporting limit. The RPDs for these sample pairs ranged from 3.9% to 6% thus indicating that 100% of the RPDs met the acceptance criterion.

3.2 Equipment Blank Samples

Equipment blank samples are used to indicate if any cross-contamination of samples between uses of sampling equipment or contamination to samples from disposable equipment may have occurred. Field equipment blank samples are collected by pouring laboratory-provided water (analyte-free, de-ionized) through and/or over decontaminated or disposable sampling equipment into appropriate containers. The criteria for evaluating equipment blanks were such that no target compound should be present at or above the sample quantitation limit in any given equipment blank.

One equipment blank sample was collected during each monitoring event and submitted to the laboratory for analysis for VOCs, ETPH, PCBs, and metals. A summary of all equipment blank samples analyzed is provided as Table C-3. No constituents were detected above laboratory reporting limits in either of the equipment blank samples that were collected in 2012.

3.3 Trip Blank Samples

Trip blank samples are used to indicate if any cross-contamination between samples or contamination from other sources of VOCs may have occurred during transport, storage, or laboratory analysis of samples. Trip blank samples were prepared by Accutest Laboratories (Accutest) using ultra-pure, de-ionized water and submitted to the sampling team whenever glassware was delivered. A trip blank sample accompanied all project VOC sample containers through all custody changes in possession, coolers and refrigerators. The trip blank samples were never opened by the sampling team.

A total of four trip blank samples, one for each day that sampling was conducted, were submitted to Accutest for analysis. A summary of all trip blank samples is included in Table C-3. No constituents were detected above laboratory reporting limits in any of the trip blank samples that were collected in 2012.

3.4 Performance Evaluation Samples

Double blind aqueous PE samples were submitted to Accutest during the September 2012 monitoring event. The PE sample data were used to assess the overall accuracy and bias of the analytical methods being used and provide an indication of overall laboratory performance. Data for the PE samples also provided information about the magnitude and direction of quantitative bias for the laboratory methods, including sample preparation (extraction and cleanup) and analysis (chromatography and calibration).

The PE samples for this project were prepared by Environmental Resource Associates (ERA) of Arvada, Colorado. All results for PE samples were compared with vendor-certified acceptance limits. The PE samples results were evaluated for pass and fail. Fails were categorized as bias high, bias low, false negatives and false positives. Performance evaluation sample certified values and results of the performance sample evaluation are included as Attachment C-2. The following is a summary of the performance evaluation samples results by analytical class.

- **Volatile Organic Compounds:** An evaluation of the results obtained against vendor-specified acceptance standards indicated that each of the VOC constituents (tetrachloroethylene, trichloroethylene [TCE], vinyl chloride, cis-1,2-dichloroethylene and trans-1,2-dichloroethylene) was outside of the acceptable vendor-certified limits. All of these VOC concentrations were reported higher than the acceptable limits. In addition, a false positive result was reported for chloroform. LEA is currently investigating the

detections and has requested that Accutest Laboratories and ERA perform an internal QA/QC review for the VOC results reported.

- **Polychlorinated Biphenyls:** PCBs were reported by the laboratory within the vendor-certified limits.
- **Extractable Total Hydrocarbons:** ETPH were reported by the laboratory within the vendor-certified limits.
- **Metals:** All metals were reported by the laboratory within the vendor-certified acceptable limits.

4. ASSESSMENT OF LABORATORY QA/QC INFORMATION

All data were analyzed using the Connecticut Reasonable Confidence Protocols (RCPs), which are analytical methods based on the respective EPA methods. The RCPs provide specific requirements for QA/QC that the laboratory must follow during analysis of environmental samples. In addition, the RCP methods require the laboratory to report the QA/QC analytical data associated with the analysis of each sample in the laboratory report and further require that the laboratory provide a narrative of any non-conformances for QA/QC data that were outside the acceptable limits for such data, as described in the specific RCP method.

QA/QC information provided by laboratories was evaluated with respect to quality by conducting a DQA and DUE in accordance with the methodology described in the November 2007 guidance document entitled *Reasonable Confidence Protocols* and in more detail in the May 2009 document (revised December 2010) entitled *Laboratory Quality Assurance Quality Control, Data Quality Assessment, Data Usability Evaluation Guidance Document*. The DQA process is intended to assess the quality of the analytical data generated by the laboratories. The DUE is performed to determine, once the quality of the analytical is known, whether the quality of that data will affect its usability for the intended purpose.

4.1 Data Quality Assessment and Usability

The DQA was performed to assess the quality of the analytical data in each laboratory analytical report package. The DQA resulted in identifying data for which the quality could affect its potential use in decision-making. The DUE, which took into account the objectives for the data collection effort, and the intended use of the data, was performed using the information developed during the DQA. The RCP Data Quality Assessment Summary Reports that were generated during that assessment process are included as Attachment C-3.

Each analytical data package was reviewed in accordance with the DQA review process. Several deficiencies were noted. These included:

- Results for the surrogate recoveries for VOCs and PCBs outside the accepted range of variability;
- Results for Laboratory Control Sample (LCS) for VOCs outside the accepted range of variability;
- Recoveries for Matrix Spike/Matrix Spike Duplicate (MS/MSD) and Relative Percent Differences (RPDs) for VOCs outside the accepted range of variability; and

- Several VOCs detected in Method Blanks.

After the laboratory analytical data were evaluated during the DQA, a DUE was performed. The DUE took into account the following:

- the site-specific conceptual site model (CSM);
- knowledge of the contaminant types, concentrations, and distribution;
- objectives for the data collection effort and the intended use of the data (i.e. the data quality objectives [DQOs]); and
- results from field QA/QC sampling.

In general, the QA/QC deficiencies identified related to constituents that are not identified as constituents of concern for the Project Area or resulted in bias high data. Taking into consideration multiple lines of evidence, results from the DUE indicated that the data generated during the 2012 groundwater sampling events were usable for the intended purpose. One deficiency associated with a constituent of concern required a more detailed evaluation to assess potential affects on usability.

There was one instance in which a QA/QC deficiency was associated with TCE, which is a VOC that has been identified as a constituent of concern that could potentially affect the usability of the data. The MS/MSD recovery for TCE associated with groundwater collected from monitoring well WT-MW-50 in September 2012 of 43%/42% indicates a low bias. The concentration of TCE reported in groundwater was 199 micrograms per liter ($\mu\text{g/l}$), which is just below the RVC for TCE of 211 $\mu\text{g/l}$. However, the concentration of TCE reported in a duplicate sample collected from this monitoring well, which did not have any QA/QC non-conformances was 332 $\mu\text{g/l}$. As a conservative measure, the higher value was used for decision making.

The rationale discussed in the foregoing statement, coupled with the number and type of QA/QC issues identified during the DQA, provide support for a conclusion that analytical results for the samples collected during the two 2012 monitoring events were considered usable for decision-making purposes.

TABLES

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Table C-2
SUMMARY OF ANALYTICAL RESULTS - FIELD DUPLICATES
Pratt & Whitney, East Hartford, Connecticut: Willow Brook & Willow Brook Pond
2012 Annual Groundwater Monitoring Report



	Location ID	WT-MW-50	WT-MW-50	RPD (%)	.	WT-MW-50	WT-MW-50	RPD (%)
	Sample ID	1255898	1255901			1264979	1264991	
	Sample Date	03/27/2012	03/27/2012			09/06/2012	09/06/2012	
	Sample Time	11:20	11:20			10:46	10:46	
	Sample Depth	16.00' - 26.0	16.00' - 26.0			16.00' - 26.0	16.00' - 26.0	
	Laboratory	ACTM	ACTM			ACTM	ACTM	
	Lab. Number	MC9090-10	MC9090-15			MC13777-1	MC13777-3	
Constituent	Units							
Date PCBs Analyzed	-	04/01/2012	04/01/2012			09/13/2012	09/13/2012	
Date Metals Analyzed	-	03/30/2012	03/30/2012			09/10/2012	09/10/2012	
Date Organics Analyzed	-	04/04/2012	04/04/2012			09/17/2012	09/17/2012	
Date Physical Analyzed	-	04/02/2012	04/02/2012			09/10/2012	09/10/2012	
Arsenic (unfiltered)	mg/L	0.0067	0.0063	6		0.0051	0.0053	4
Barium (unfiltered)	mg/L	0.331	0.35	6		0.344	0.331	3.9
Cadmium (unfiltered)	mg/L	<0.0040 U	<0.0040 U			<0.0040 U	<0.0040 U	
Chromium, Total (unfiltered)	mg/L	<0.01 U	<0.01 U			<0.01 U	<0.01 U	
Chromium, Hexavalent	mg/L					<0.010 U	<0.010 U	
Copper (unfiltered)	mg/L	<0.025 U	<0.025 U			<0.025 U	<0.025 U	
Lead (unfiltered)	mg/L	<0.0050 U	<0.0050 U			<0.0050 U	<0.0050 U	
Mercury (unfiltered)	mg/L	<0.00020 U	<0.00020 U			<0.00020 U	<0.00020 U	
Nickel (unfiltered)	mg/L	<0.04 U	<0.04 U			<0.04 U	<0.04 U	
Selenium (unfiltered)	mg/L	<0.01 U	<0.01 U			<0.01 U	<0.01 U	
Silver (unfiltered)	mg/L	<0.0050 U	<0.0050 U			<0.0050 U	<0.0050 U	
Zinc (unfiltered)	mg/L	<0.02 U	0.0217			<0.02 U	<0.02 U	
Arochlor 1016	ug/L	<0.29 U	<0.28 U			<0.25 U	<0.26 U	
Arochlor 1221	ug/L	<0.29 U	<0.28 U			<0.25 U	<0.26 U	
Arochlor 1232	ug/L	<0.29 U	<0.28 U			<0.25 U	<0.26 U	
Arochlor 1242	ug/L	<0.29 U	<0.28 U			<0.25 U	<0.26 U	
Arochlor 1248	ug/L	<0.29 U	<0.28 U			<0.25 U	<0.26 U	
Arochlor 1254	ug/L	<0.29 U	<0.28 U			<0.25 U	<0.26 U	
Arochlor 1260	ug/L	<0.29 U	<0.28 U			<0.25 U	<0.26 U	
Arochlor 1262	ug/L	<0.29 U	<0.28 U			<0.25 U	<0.26 U	
Arochlor 1268	ug/L	<0.29 U	<0.28 U			<0.25 U	<0.26 U	
Total Petroleum Hydrocarbons (CT ETPH)	mg/L	0.228	0.234	3		0.100	0.0942	6
Naphthalene	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
1,2-Dichloropropane	ug/L	<2.0 U	<2.0 U			<2.0 U	<4.0 U	

Table C-2
SUMMARY OF ANALYTICAL RESULTS - FIELD DUPLICATES
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2012 Annual Groundwater Monitoring Report



	Location ID	WT-MW-50	WT-MW-50	RPD (%)	.	WT-MW-50	WT-MW-50	RPD (%)
	Sample ID	1255898	1255901			1264979	1264991	
	Sample Date	03/27/2012	03/27/2012			09/06/2012	09/06/2012	
	Sample Time	11:20	11:20			10:46	10:46	
	Sample Depth	16.00' - 26.0	16.00' - 26.0			16.00' - 26.0	16.00' - 26.0	
	Laboratory	ACTM	ACTM			ACTM	ACTM	
	Lab. Number	MC9090-10	MC9090-15			MC13777-1	MC13777-3	
Constituent	Units							
Acetone	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
Acrylonitrile	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
2-Hexanone	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
Benzene	ug/L	0.77	0.81	5		<0.50 U	<1.0 U	
1,2,3-Trichlorobenzene	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
1,2,4-Trichlorobenzene	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
1,2,4-Trimethylbenzene	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
o-Dichlorobenzene	ug/L	<1.0 U	<1.0 U			<1.0 U	<2.0 U	
1,3,5-Trimethylbenzene	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
m-Dichlorobenzene	ug/L	<1.0 U	<1.0 U			<1.0 U	<2.0 U	
p-Dichlorobenzene	ug/L	<1.0 U	<1.0 U			<1.0 U	<2.0 U	
Bromobenzene	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
Butyl Benzene	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
Chlorobenzene	ug/L	<1.0 U	<1.0 U			<1.0 U	<2.0 U	
Ethylbenzene	ug/L	<1.0 U	<1.0 U			<1.0 U	<2.0 U	
Isopropylbenzene (Cumene)	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
Propylbenzene	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
sec-Butylbenzene	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
tert-Butylbenzene	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
Hexachlorobutadiene	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
Methyl Ethyl ketone	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
trans-1,4-Dichlorobutene	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
Carbon Disulfide	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
Carbon Tetrachloride	ug/L	<1.0 U	<1.0 U			<1.0 U	<2.0 U	
4-Isopropyltoluene	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
1,1,1,2-Tetrachloroethane	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
1,1,1-Trichloroethane	ug/L	51.8	49.6	4.3		17.8	28.0	44.5
1,1,2,2-Tetrachloroethane	ug/L	<1.0 U	<1.0 U			<1.0 U	<2.0 U	

Table C-2
SUMMARY OF ANALYTICAL RESULTS - FIELD DUPLICATES
Pratt & Whitney, East Hartford, Connecticut: Willow Brook & Willow Brook Pond
2012 Annual Groundwater Monitoring Report



	Location ID	WT-MW-50	WT-MW-50	RPD (%)	.	WT-MW-50	WT-MW-50	RPD (%)
	Sample ID	1255898	1255901			1264979	1264991	
	Sample Date	03/27/2012	03/27/2012			09/06/2012	09/06/2012	
	Sample Time	11:20	11:20			10:46	10:46	
	Sample Depth	16.00' - 26.0	16.00' - 26.0			16.00' - 26.0	16.00' - 26.0	
	Laboratory	ACTM	ACTM			ACTM	ACTM	
	Lab. Number	MC9090-10	MC9090-15			MC13777-1	MC13777-3	
Constituent	Units							
1,1,2-Trichloroethane	ug/L	<1.0 U	<1.0 U			<1.0 U	<2.0 U	
1,1,2-Trichlorotrifluoroethane	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
1,1-Dichloroethane	ug/L	9.6	9.5	1		8.0	8.4	5
Ethylene Dibromide	ug/L	<2.0 U	<2.0 U			<2.0 U	<4.0 U	
1,2-Dichloroethane	ug/L	<1.0 U	<1.0 U			<1.0 U	<2.0 U	
Chloroethane	ug/L	26.0	28.2	8.1		12.0	6.1	65
Methyl tert-Butyl ether	ug/L	<1.0 U	<1.0 U			<1.0 U	<2.0 U	
1,1-Dichloroethylene	ug/L	162	153	6		74.8	115	42
trans-1,2-Dichloroethylene	ug/L	<1.0 U	<1.0 U			<1.0 U	<2.0 U	
cis-1,2-Dichloroethylene	ug/L	65.7	64.7	1.5		60.9	69.4	13
Vinyl Chloride	ug/L	11.1	10.5	6		11.3	10.1	11
Tetrachloroethylene	ug/L	71.7	62.3	14		27.6	57.3	70.0
Tetrahydrofuran	ug/L	<10 U	13.9			56.1	23.5	81.9
Bromomethane	ug/L	<2.0 U	<2.0 U			<2.0 U	<4.0 U	
Bromodichloromethane	ug/L	6.6	<1.0 U			<1.0 U	<2.0 U	
Chloromethane	ug/L	<2.0 U	<2.0 U			<2.0 U	<4.0 U	
Chlorodibromomethane	ug/L	<1.0 U	<1.0 U			<1.0 U	<2.0 U	
Methylene Dibromide	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
Methylene Chloride	ug/L	<2.0 U	<2.0 U			<2.0 U	<4.0 U	
Dichlorodifluoromethane	ug/L	<2.0 U	<2.0 U			<2.0 U	<4.0 U	
Bromoform	ug/L	<1.0 U	<1.0 U			<1.0 U	<2.0 U	
Chloroform	ug/L	2.0	2.1	5		1.5	<2.0 U	
Trichlorofluoromethane	ug/L	<1.0 U	<1.0 U			<1.0 U	<2.0 U	
Methyl Isobutyl ketone	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
1,2,3-Trichloropropane	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
1,2-Dibromo-3-Chloropropane	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
1,3-Dichloropropane	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	
sec-Dichloropropane	ug/L	<5.0 U	<5.0 U			<5.0 U	<10 U	

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ATTACHMENT C-1

LEA Standard Operating Procedures

Loureiro Engineering Associates, Inc.
Standard Operating Procedure
for
Liquid Sample Collection and Field Analysis

SOP ID: 10004
Date Initiated: 02/20/90
Revision No. 006: 12/31/01

Approved By: <u>/s/ Joseph T. Trzaski</u>	<u>12/31/01</u>
Joseph T. Trzaski	Date
Senior Scientist	
 <u>/s/ Nick D. Skoularikis</u>	 <u>12/31/01</u>
Nick D. Skoularikis	Date
Director of Quality	

REVISION RECORD

<u>Rev #</u>	<u>Date</u>	<u>Additions/Deletions/Modifications</u>
Initial Issue	2/20/90	
001-004	NR	No record.
005	01/15/99	No record.
006	12/31/01	Updated to conform to new SOP format. Minor revisions throughout.



Loureiro Engineering Associates, Inc.
Standard Operating Procedure
for
Liquid Sample Collection and Field Analysis

1. Purpose and Scope

This document describes procedures to be followed for measurement of static water level elevations, detection of immiscible layers, well evacuation, sample withdrawal, and field analyses.

2. Definitions

2.1. Immiscible layers: The term is used to denote free-phase liquids that may be present in the aquifer as a result of a release. These liquids may have a density lighter than water (light non-aqueous phase liquids (LNAPL) or floaters) or heavier than water (dense non-aqueous phase liquids (DNAPL) or sinkers).

3. Equipment

3.1. Equipment required for the collection and field analysis of liquid samples includes:

- Water-level indicator (accurate to 0.01 foot). The size of the instrument depends on the size of the wells being monitored.
- Distilled water.
- Hand towels.
- Portable volatile organic compound (VOC) analyzer (Photovac MicroTIP[®], Foxboro OVA[®] or equivalent).
- Interface probe, clear polyvinyl chloride (PVC) or fluorocarbon resin bailer (if required).
- pH and temperature meter (capable of accuracy to 0.1 pH unit).
- Specific conductivity meter.
- Bailers (clean or disposable) with disposable nylon or polyethylene rope.



- Polyethylene plastic sheeting.
- Polyethylene tubing, and appropriate pumping apparatus such as centrifugal pump, Wattera[®] pump with fluorocarbon resin foot valve, peristaltic pump with appropriate tubing, submersible pump or other appropriate pumping apparatus.
- Clean disposable gloves.
- Field paperwork.
- Sample collection jars.
- Indelible marker.
- Cooler(s) with ice or ice packs.
- Site-specific Health and Safety Plan (as applicable).
- Site-specific work plan, work instructions, drawings (as applicable).
- Personal protective equipment (as may be required by Site Specific Health and Safety Plan).
- Aluminum foil (if field decontamination is expected).
- Appropriate containers for collection of purge water (bucket, carboy, 55-gallon drum etc.).

4. Procedures

Immediately upon opening the well, the air in the wellhead should be sampled for VOCs using a portable VOC analyzer, such as a Photovac MicroTIP[®]. The well cap shall be opened slightly and the sampling port of the VOC analyzer shall be inserted into the well. The maximum reading shall be recorded on the appropriate field paperwork. The instrument shall be zeroed with ambient air prior to the measurement, and the initial and final readings shall be recorded for each well.

Measures shall be taken during well sampling to prevent surface soils from coming in contact with the purging equipment and lines. Typically, a polyethylene sheet is placed on the ground providing adequate coverage for the equipment being used.

4.1. Detection of Immiscible Layers

- 4.1.1. If the presence of immiscible layers is suspected or unknown, the sampling event shall include provisions for detection of immiscible phases prior to well evacuation or sample collection. Lighter and/or



denser immiscible phases may be encountered in a groundwater monitoring well.

- 4.1.2. An interface probe will be used to determine the existence of any immiscible layers, light or dense. Alternatively, a clear fluorocarbon resin or PVC bailer may be used to determine the existence of the phases or oil sheen in the well when no accurate determination of the immiscible layer thickness is required. For Geoprobe[®] wells smaller than 1" in diameter, an interface probe cannot be introduced into the well. A small diameter disposable bailer can be used to determine the existence of any immiscible layers. Alternatively the initial water purged from a well will be collected and evaluated visually for the presence of immiscible layers.
- 4.1.3. If immiscible layers were encountered, the levels of the immiscible liquids shall be measured to an accuracy of 0.02 feet using an electronic interface probe capable of detecting the interfaces between air, product, and water. The interface levels shall be recorded in the field notebook. Adjustments of the observed head to the theoretical hydraulic head shall be calculated based on the density conversion factor associated with the particular non-aqueous phase liquid.
- 4.1.4. If required, the immiscible layers and groundwater shall then be purged into 55-gallon 17H DOT drum, which shall be labeled and characterized for disposal. The immiscible layer shall be collected prior to any purging activities.

4.2. Measurement of Static Water Level

- 4.2.1. The static water elevations in each well shall be measured prior to each sampling event. This is performed initially to characterize the site, and in subsequent sampling rounds to determine whether horizontal or vertical flow gradients have changed. A change in hydrologic conditions may necessitate modification of the groundwater monitoring program.
- 4.2.2. Remove the protective cover and locking cap.
- 4.2.3. Each well shall have a surveyed reference point located at the top of the well casing with the locking cap removed. The reference point shall be easily recognizable, since the personnel conducting the sampling may differ from one sampling event to the next. If no distinguishable reference point is present, the measurements shall be



taken from the highest point on the well casing. The absence of a reference point and subsequent reference point used for the measurements shall be recorded on the field paperwork.

4.2.4. The following parameters shall be measured with an accuracy of 0.01 ft:

- Depth to standing water.
- Depth to bottom of well.

4.2.5. A water-level indicator will be used for measurement. Due to possible pressure differences between the well atmosphere and the ambient atmosphere, the water level will be allowed to equilibrate for 15 minutes following removal of the well cap. The results shall be recorded in the appropriate location(s) on the appropriate field forms.

4.2.6. Total depth measurements will be compared to original depths to determine the degree of siltation that may have occurred. This information shall be noted on the field form. Should significant siltation occur in any well, the well may need to be redeveloped by an approved method. This information will also be used to confirm that the proper well is being sampled (in case of cluster wells).

4.2.7. The portion of the tape immersed in the well shall be decontaminated during retrieval using a distilled water rinse followed by drying with a clean wipe, prior to use in another well. This decontamination procedure shall be amended, as needed, to accommodate the specific type of contamination anticipated.

4.3. Field Analysis

4.3.1. Parameters that are physically or chemically unstable shall be measured immediately after collection using a field test meter or other equipment. Parameters such as pH, temperature, specific conductivity, and turbidity will be measured in the field, at the temperature of the well sample. The measurement of additional parameters may be required dependent upon sampling methods or other site-specific conditions.

4.3.2. A combination of pH/temperature/specific conductivity meters shall be used. The meter shall be calibrated prior to use and at the end of the day using calibration solutions, in accordance with the instructions provided in the instrument's operating manual. Whenever a



questionable reading (“spike”) is observed the calibration shall be checked. The calibration shall be checked prior to sampling each well or well cluster. Calibration information to be recorded in the field paperwork shall include the temperature, pH, and conductivity readings in each calibration solution before and after each calibration.

The pH/temperature/conductivity meters shall be placed into a sample and allowed to stabilize for a minimum of twenty seconds. The accuracy of measurement shall be 0.1 standard units for pH, and 0.1E Celsius for temperature. For conductivity, the accuracy shall be as stipulated by the range of the instrument. The sample shall be discarded in an appropriate manner upon completion of the analysis.

- 4.3.3. The pH/temperature/specific conductivity meters shall be decontaminated using a distilled/deionized water rinse between each sample. To the extent possible, the same probe and meter shall be used for all measurements at a given site for the duration of monitoring at the site.
- 4.3.4. Turbidity of the sample will be measured using a DRT turbidimeter, Model 15C or equivalent, that has been calibrated in accordance with the instructions provided in the instrument’s manual. The accuracy of the measurement shall be to 1 NTU (nephelometric turbidity unit).

4.4. Well Evacuation

- 4.4.1. Calculate standing water in the well based on the following schedule and record on the appropriate field form:

Well Diameter (inches)	Conversion Factor (gal/feet)
½	0.01
1	0.041
1 ¼	0.064
1 ½	0.091
2	0.163
4	0.654
6	1.47

- 4.4.2. Generally, a centrifugal, submersible, air-lift, bladder, inertial, or peristaltic pump equipped with a fluorocarbon resin or PVC foot valve on the end of dedicated tubing, as appropriate, may be used to evacuate the monitoring wells. Alternatively, evacuation of the wells may be accomplished using a bailer.



- 4.4.3. A new sheet of polyethylene plastic shall be placed on the ground adjacent to the well. Sampling and purging equipment, such as pump, tubing, bailers and bailer twine, containers, etc., shall be placed on the polyethylene sheet, never on the ground.
- 4.4.4. Don disposable gloves, prepare pump and tubing for insertion into the well, ensuring that any tubing or pump apparatus is of sufficient length to reach the appropriate depth for pumping. Pumping shall occur within the well screened interval as indicated on the well construction diagram. If the well construction information is not available, the bottom of the tubing or pump shall be placed 1' - 2' above the bottom of the well.
- 4.4.5. Lower the pump and/or tubing gently into the water column to the appropriate depth and begin pumping.
- 4.4.6. Measure pH, temperature, specific conductivity, turbidity and other specific parameters in the well from the first water extracted during the purging process.
- 4.4.7. Remove a volume of water equal to 3 to 5 times the standing water from the well measured into an appropriate container. Purging of the well shall occur at a slow rate to minimize agitation of the water recharging the well.
- 4.4.8. If it is not possible to remove three volumes as described above, due to slow recovery of the well, the well shall be emptied and allowed to recover. In slow-yielding wells, whenever full recovery exceeds two hours, the sample shall be extracted as soon as a sufficient volume is available for a sample for each parameter.
- 4.4.9. Measure pH, temperature, specific conductivity, turbidity and other specific parameters **prior** to sampling.
- 4.4.10. Well evacuation is deemed to be complete when the following criteria have been met:
- pH measurements vary no more than ± 0.5 standard units.
 - Specific conductivity measurements vary no more than $\pm 10\%$.
 - Temperature measurements vary no more than $\pm 1\text{EC}$.
 - Turbidity measurements (if used) are below 5 NTU, if practicable.



Alternatively well purging shall be deemed complete if a maximum of five well volumes have been removed from the well and/or other site-specific or method-specific parameters have stabilized.

- 4.4.11. Measure pH, temperature, specific conductivity and turbidity (and other specific parameters) again **after** sampling to determine the effectiveness of purging and sample stability.
- 4.4.12. Do **not** re-use purging equipment (bailers, rope, tubing, sampling vials, etc.). Any non-disposable bailers shall be returned to the office for decontamination. Pumps shall be decontaminated between monitoring wells, in accordance with procedures noted in Section 4.7.
- 4.4.13. Bailer twine and other consumables, such as filter apparatus, shall be disposed of appropriately.
- 4.4.14. Record sampler's name, sampling time, volume of water purged, parameters measured, weather conditions, sample number, analyses required and all other pertinent information on appropriate field forms, and complete the chain of custody form. The field paperwork shall also provide an indication of other field conditions that could potentially impact water levels (such as a pond being drained, or presence of a beaver dam in nearby surface water).
- 4.4.15. As dictated by project-specific requirements and/or groundwater quality considerations, any water purged from the monitoring wells shall be stored in properly labeled containers for disposal.
- 4.4.16. Storage shall be in properly labeled containers approved for storage of hazardous materials, and in an appropriate designated location at the site.

4.5. Sample Withdrawal

- 4.5.1. In order to ensure that the groundwater sample is representative of the formation, it is important to minimize physical alteration (i.e. agitation during purging and/or sample collection) or chemical contamination of the sample during the withdrawal process. The sample set shall include enough dedicated bailers and sample jars to obtain samples from each well, and additional quality assurance/quality control (QA/QC) samples such as duplicates, trip blanks and equipment blanks. In addition, it is recommended to increase the supply of



sampling equipment and sample jars by about 10% to account for missing or broken glassware.

4.5.2. Use either an appropriate pump or bailer to purge each well (the same pump used for purging may be used for sample withdrawal, with the exception that samples intended for VOC analysis must be collected using either a bailer or a bladder pump.). Do not reuse a bailer in the field; used non-disposable bailers shall be returned to the office for decontamination.

4.5.3. To minimize agitation of the water column, samples shall be collected from the pump tubing in the following order into pre-labeled sample containers:

- Extractable organics (semi-volatile).
- Total petroleum hydrocarbons (TPH).
- Poly chlorinated biphenyls (PCBs).
- Metals.
- Phenols.
- Cyanide.
- Chloride and sulfate.
- Nitrate and ammonia.
- Turbidity.
- Radionuclides.

Samples to be analyzed for the following constituents shall be collected using a bailer, after any pump and tubing have been removed from the well. Removal of any down hole equipment shall be done carefully and in a manner that minimizes disturbance of the water column.

- Volatile organic compounds (VOCs).
- Purgeable organic carbon (POCs).
- Purgeable organic halogens (POX).
- Total organic halogens (TOX).
- Total organic carbon (TOC).



- 4.5.4. Samples shall be obtained from the monitoring wells as soon as possible after purging. This may require waiting an extended period for low-yielding wells.
 - 4.5.5. Samples collected for VOC analysis shall be free of any air bubbles and inverted upon filling. Bacterial samples shall be collected using dedicated gloves; taking care not to allow anything to touch the inside of the sampling container.
 - 4.5.6. Samples collected for dissolved metals analysis, which are to be filtered in the field, shall be passed through a 0.45 micron (maximum) filter (either in-line or under negative pressure) prior to placement in the sample bottle.
 - 4.5.7. In situations where replicate samples shall be required, care shall be taken to ensure that each sample collected is independent.
 - 4.5.8. In some situations, inorganic parameters may be sampled directly from a pump after completion of well evacuation procedures.
- 4.6. Post Sampling Procedures
- 4.6.1. As required, upon completion of all sampling procedures for a particular site, secure the lid of the cooler using packaging tape with the chain of custody inside.
 - 4.6.2. If the laboratory is local, transport the samples directly to the laboratory and present them to the sample manager. The representative of LEA should witness the verification of the chain of custody and obtain a carbon copy for filing in the project notebook.
 - 4.6.3. If the laboratory is distant, arrange for transport with a reputable carrier service. Typically, the laboratory specifies the carrier to be used and provides the shipping papers. The cooler and samples shall be secured for transport, and all mailing documentation secured onto the top of the cooler. Unless otherwise specified, delivery shall be overnight. Friday shipments should be mailed for Saturday delivery, once confirmed that the laboratory can accept them on Saturday. The laboratory shall provide confirmation of acceptance noting the temperature of the temperature blank and any deviations from the chain of custody.



4.7. Field Documentation

4.7.1. Field documentation shall include at a minimum: a chain-of-custody form, Field Data Record Groundwater Form, Sample Collection Form, Daily Field Report, Field Quality Review Checklist. Sample labels shall be used for proper sample identification.

4.7.1.1. The labels shall be sufficiently durable to withstand immersion for 48 hours without detaching and to withstand normal handling. The information provided shall be legible at all times.

4.7.1.2. The following information shall be provided on the sample label using an indelible-ink pen:

- Sample identification number.
- LEA Commission Number.
- Date and time of collection.
- Place of collection.
- Parameter(s) requested (if space permits).

4.7.1.3. A field logbook and/or appropriate field forms will be used to log all pertinent information with an indelible-ink pen. The following information shall be provided:

- Project and site identification.
- LEA commission number.
- Identification of well.
- Static water level measurement technique.
- Presence of immiscible layers and detection method.
- Time well purged.
- Collection method for immiscible layers and sample identification numbers.
- Well evacuation procedure/equipment.
- Sample withdrawal procedure/equipment.
- Date and time of collection.



- Types of sample containers used and sample identification numbers.
- Preservative(s) used.
- Parameters requested for analysis.
- Field analysis method(s).
- Whether or not field filtration was performed and the filter size, if appropriate.
- Field observations on day of sampling event.
- Record of site activities.
- Field personnel.
- Climatic conditions, including air temperature.
- Status of total production.
- Record of non-productive time.
- Name of all visitors to the site related to the project.

4.7.1.4. The chain-of-custody record shall include the following information:

- Company's name and location.
- Date and time of collection.
- Sample number.
- Container type, number, size.
- Preservative used.
- Signature of collector.
- Signatures of persons involved in the chain of possession.
- Analyses to be performed.
- Type and number of samples.

A separate entry shall be made for each sample, and within each sample each case that a different preservative is used.



4.7.1.5. The Field Data Record Groundwater Form shall be updated during the sampling of each well and include the following information:

- Identification of well.
- Well depth, diameter, depth to water.
- Static water level depth and measurement technique.
- Purge volume and pumping rate.
- Time well purged.
- LEA commission number.
- Date.

4.8. Equipment Decontamination

All materials and equipment, which enter a well, must be clean and free of any potential contaminants. In general, the equipment and materials entering the well shall be unused and preferably disposable. Any items not considered disposable should be decontaminated prior to commencing field activities. If field decontamination is required, the choice of decontamination procedures shall be based upon knowledge of the site-specific contaminants and as outlined in the site-specific work plan.

For sites at which the contaminants are unknown, but contamination is suspected, the decontamination procedures outlined below shall be followed.

- 4.8.1. Prior to commencing any field activities, the following solutions (as appropriate for the appropriate contaminants) shall be prepared and placed into 500-ml laboratory squirt bottles: 10% methanol in water; 10% nitric acid in water; 100% n-hexane; distilled, de-ionized water.
- 4.8.2. In the field, prepare approximately 2.5 gallons of a solution of Alconox[®] (or other suitable non-phosphate laboratory grade detergent) in tap water in a 5-gallon bucket.
- 4.8.3. Prepare a piece of 5-mil polyethylene sheeting to underlie the decontamination area. The sheeting shall be of sufficient size to contain any accidental discharge of decontamination solutions. The plastic shall be bermed to contain spills.
- 4.8.4. The order for decontaminating equipment is as follows:



- 1) Detergent scrub.
 - 2) DI water rinse.
 - 3) Hexane rinse (to be used only if separate-phase petroleum product, other than gasoline, is present).
 - 4) DI water rinse.
 - 5) 10% nitric acid rinse (to be used only when metals are suspected as potential contaminants).
 - 6) DI water rinse.
 - 7) Methanol rinse (<10% solution).
 - 8) Air dry.
- 4.8.5. Materials considered disposable such as the bailer cord, pump tubing, filters, etc. shall not be decontaminated and shall be disposed of in accordance with all applicable municipal, state, and federal regulations.
- 4.8.6. Wrap each piece of decontaminated equipment in aluminum foil, as appropriate, to maintain cleanliness.
- 4.8.7. At the end of the project day, dispose of all spent decontamination fluids and materials such as the polyethylene sheeting and personal protective equipment in accordance with all applicable municipal, state, and federal regulations.

5. Quality Assurance/Quality Control

Typically samples taken for Quality Assurance/Quality Control for liquid sample collection include duplicate samples, equipment blanks and trip blanks. The necessity for these samples will be outlined in the site-specific work plan. In general, all QA/QC measures taken during liquid sample collection shall be in conformance with LEA's standard operating procedure (SOP) ID 10005. Standard QA/QC measure shall include the recording of pertinent information as follows:

- 5.1. The Field Instrument & Quality Assurance Record, which is a portion of the Daily Field Report, shall include the following information:
- Instrument make, model, and type.
 - Calibration readings.
 - Calibration/filtration lot numbers.
 - Field personnel and signature.



5.2. The Field Quality Review Checklist, which is a portion of the Daily Field Report, shall assure the completeness of the sampling round and include the following information:

- Reviewer's name and date.
- Review of all necessary site activities and field forms.
- Statement of corrective actions for deficiencies.

6. References

- 6.1. EPA, *RCRA Groundwater Monitoring Technical Enforcement Guidance Document*, OSWER 9950.1, September 1986.
- 6.2. EPA, *Practical Guide for Groundwater Sampling*, EPA/600/2-85/104, September 1985.
- 6.3. DEP, Site Characterization Guidance Document, Draft, June 12, 2000.

END OF DOCUMENT



Loureiro Engineering Associates, Inc.
Standard Operating Procedure
for
Low-Flow (Low-Stress)
Liquid Sample Collection and Field Analysis

SOP ID: 10039

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REVISION RECORD

<u>Rev #</u>	<u>Date</u>	<u>Additions/Deletions/Modifications</u>
Initial Issue	06/11/01	
001	04/01/02	Updated to reflect new SOP format.
002	12/02/02	Updated to reflect stabilization procedures.
003	04/01/05	Incorporated modified low-flow sampling procedure to include the use of a peristaltic pump.
004	08/09/11	Allowed use of plastic tub as secondary containment. Provided equation for standing water calculation. Required recording of depth of pump intake. Required direct calculation of flow rate. Minor wording changes to improve precision. Deleted reference since it has been rescinded: [Connecticut Department of Environmental Protection, Bureau of Water Management, Permitting Enforcement and Remediation Division. <i>Site Characterization Guidance Document</i> , Draft, June 12, 2000.]
005	04/01/12	Added unit conversion information from gallons to liters.



Loureiro Engineering Associates, Inc.
Standard Operating Procedure
For
Low Flow (Low Stress)
Liquid Sample Collection and Field Analysis

1. Purpose and Scope

This standard operating procedure (SOP) describes the procedures to be followed for measurement of static water-level elevations, detection of immiscible layers, well evacuation, sample withdrawal, and field analyses utilizing low-flow sampling techniques.

2. Definitions

2.1. Immiscible layers: The term is used to denote separate-phase liquids that may be present in the aquifer as a result of a release. These liquids may have a density lighter than water (light non-aqueous phase liquids (LNAPL), which float) or heavier than water (dense non-aqueous phase liquids (DNAPL), which sink).

3. Equipment

3.1. Equipment required for the collection and field analysis of liquid samples shall include:

- Water-level indicator (accurate to 0.01 foot).
- Distilled water.
- Hand towels.
- Portable volatile organic compound (VOC) analyzer (Photovac MicroTIP[®], Foxboro OVA[®] or equivalent).
- Interface probe/clear view bailer (to check for non-aqueous phase liquids, as appropriate).
- Flow-through cell capable of monitoring pH, temperature, specific-conductance, oxidation reduction potential (Eh), dissolved oxygen (DO), and turbidity.
- Polyethylene plastic sheeting and secondary containment units (plastic tubs).



- Adjustable rate peristaltic pump, bladder pump (constructed of stainless steel or Teflon[®]), adjustable rate submersible pump, or adjustable rate centrifugal pump. The bladder pump is preferable to the other two types of pumps.
- Appropriate tubing for the pump used, for instance polyethylene tubing (1/4 to 3/8 inch outer diameter [O.D.]) for the peristaltic pump
- Clean disposable gloves.
- Alconox[®], or other non-phosphate, laboratory-grade detergent.
- Three 5-gallon buckets.
- Decontamination brushes.
- Distilled, de-ionized (DI) water.
- Decontamination fluids (less than 10 percent methanol in water, 100 percent n-hexane (as necessary), and 10 percent nitric acid).

4. Procedure

4.1. Health & Safety Requirements

All health and safety requirements described in the site-specific Health & Safety Plan and/or Job Hazard analysis shall be observed

4.2. Equipment Decontamination

All materials and equipment that enter a well must be clean and free of any potential contaminants. Do not use any contaminated equipment or materials which are not designed to be used for groundwater monitoring, even if this means that the sampling will not be performed as planned.

In general, the choice of decontamination procedures should be based upon knowledge of the site-specific contaminants and outlined in the site-specific work plan.

For sites at which the contaminants are unknown, but contamination is suspected, the decontamination procedures outlined below should be followed.

- 4.2.1. Prior to commencing any field activities, the following solutions (as appropriate for the appropriate contaminants) should be prepared and placed into 500-ml laboratory squirt bottles: less than 10 percent



methanol in water; 10 percent nitric acid in water; 100 percent n-hexane, as necessary; distilled, de-ionized water.

- 4.2.2. In the field, prepare approximately 2.5 gallons of a solution of Alconox[®] (or other suitable non-phosphate laboratory grade detergent) in tap water in a 5-gallon bucket.
- 4.2.3. Prepare a piece of 5-mil polyethylene sheeting to underlie the decontamination area. The sheeting should be of sufficient size to contain any accidental discharge of decontamination solutions. The plastic should be bermed to contain spills.
- 4.2.4. The order for decontaminating equipment is as follows:
 - 1) Detergent scrub.
 - 2) DI water rinse.
 - 3) Hexane rinse (to be used only if separate-phase petroleum product, other than gasoline, is present).
 - 4) DI water rinse.
 - 5) 10 percent nitric acid rinse (to be used only when metals are suspected as potential contaminants).
 - 6) DI water rinse.
 - 7) Methanol rinse (less than 10 percent solution).
 - 8) Air dry.
- 4.2.5. Materials such as the bailer cord should not be decontaminated and should just be disposed of after each test. Note: Bailers should be used **only** to check for LNAPL before sample collection using low-flow/low stress procedures. A bailer may be used to check for DNAPL **only after** all sample collection equipment has been removed from the well.
- 4.2.6. At the end of the project day, dispose of all spent decontamination fluids and materials such as the polyethylene sheeting and personal protective equipment in accordance with all applicable municipal, state, and federal regulations.

4.3. Sample Collection

- 4.3.1. Immediately upon opening the well, the air in the well head will be sampled for VOCs using a portable VOC analyzer, such as a Photovac MicroTIP[®] or equivalent. The instrument shall be zeroed with ambient air prior to the measurement, and the highest reading observed shall be



recorded for each well. Measurements should be taken until stabilization of the readings has occurred.

4.4. Detection of Immiscible Layers

- 4.4.1. Should evidence warrant, a sampling event shall include provisions for the detection of immiscible phases prior to well evacuation or sample collection. LNAPLs are relatively insoluble liquid organic compounds with densities less than that of water (1 g/ml), while DNAPLs are organic compounds with densities greater than that of water. Lighter and/or denser immiscible phases may be encountered in a groundwater monitoring well.
- 4.4.2. An interface probe will be used to determine the existence of any immiscible layers, light or dense. Alternatively, a clear fluorocarbon resin or PVC bailer may be used to determine the existence of the separate phases or oil sheen in the well when no accurate determination of the immiscible layer thickness is required. As noted above, efforts to detect LNAPL only can be performed prior to sample collection. Efforts to detect DNAPL can be performed only AFTER sample collection has occurred.
- 4.4.3. Should elevations of the immiscible layers be required, levels of the fluids shall be measured to an accuracy of 0.01 feet using an electronic interface probe capable of detecting the interfaces between air, product, and water. The interface levels shall be recorded on the field form. Adjustments of the observed head to the theoretical hydraulic head shall be calculated based on the density conversion factor associated with the particular non-aqueous phase liquid.
- 4.4.4. If LNAPL is detected in a well, collection of a groundwater sample from that well is not recommended unless otherwise specified in the site-specific work plan or work instruction. However, if a groundwater sample must be collected from that well, low-flow sampling is the recommended technique, although care must be taken to minimize mobilization of the LNAPL into the zone from which the sample will be collected. This is best accomplished by ensuring that the tubing or pump intake is placed well below the interface of the separate phase liquid with the water in the well.



4.5. Measurement of Static Water Level

- 4.5.1. The static water-level elevations in each well shall be measured prior to each sampling event. This is performed initially to characterize the site, and in subsequent sampling rounds to determine whether horizontal or vertical flow gradients have changed. A change in hydrologic conditions may necessitate modification of the groundwater monitoring program.
- 4.5.2. Remove the protective cover and locking cap from the well.
- 4.5.3. Make sure the well is properly labeled if there can be any question about the well I.D. based on location (i.e., more than one well in close proximity to each other). If the well cannot be clearly identified, either based on location or by a specific label of some kind on the well itself, clearly indicate that fact on the field sampling record, water-level measurement form, and/or field paperwork. A measurement of depth-to-bottom of the well can be made in an attempt to clarify the well I.D., but this should only be performed if the well will not be sampled for at least 12 hours in order to minimize any potential effects from disturbance of sediment that may have accumulated at the bottom of the well. Otherwise, a depth-to-bottom measurement can only be made after the well is sampled, as indicated in Section 4.5.5.
- 4.5.4. Each well shall have a surveyed reference point located at the top of the well casing with the locking cap removed. The reference point shall be easily recognizable, since the personnel conducting the sampling may differ from one sampling event to the next.
- 4.5.5. The following parameters shall be measured with an accuracy of 0.01 foot:
 - Depth to standing water.
 - Depth to bottom of well (after all liquid samples have been collected from the well).
- 4.5.6. A water-level indicator with a fiberglass tape will be used for measurement. As a result of possible pressure differences between the well atmosphere and the ambient atmosphere, the water level will be allowed fifteen minutes to equilibrate upon removal of the well cap. If excess pressure is encountered, the water level will be allowed greater than fifteen minutes to equilibrate upon removal of the well cap. The results shall be recorded on the appropriate field form(s).



- 4.5.7. Total depth measurements will be compared to original depths to determine the degree of siltation that may have occurred. This information shall be noted on the field forms. Should significant siltation occur in any well, the well shall be redeveloped by an approved method.
- 4.5.8. The portion of the tape immersed in the well shall be decontaminated during retrieval using a distilled water rinse followed by drying with a clean wipe, prior to use in another well. This decontamination procedure shall be amended, as needed, to accommodate the specific type of contamination anticipated.
- 4.5.9. The static water level should be monitored and recorded throughout the purging and sampling of each well.

4.6. Field Analysis

- 4.6.1. Parameters that are physically or chemically unstable shall be measured using probes that are inside a flow-through cell. Such parameters as pH, temperature, specific conductance, DO, Eh, and turbidity will be measured in the field at the temperature of the well sample.
- 4.6.2. Parameters such as pH, temperature, specific conductance, DO, and Eh shall be measured using a flow-through-cell (YSI model 6820 or equivalent). The meter shall be calibrated prior to use and at the end of the day using supplied solutions in accordance with the instructions provided by the manufacturer. Calibration information will be recorded in the field before and after each calibration.
- 4.5.3. Turbidity can be measured with a separate turbidimeter, although some flow-through cells include a turbidimeter. It is useful to have a separate turbidimeter on hand to check the validity of the turbidity values obtained using the flow-through cell if there is difficulty reaching low turbidity values or if the turbidity readings recorded do not seem to be consistent with visual observation of the water samples. All samples, including turbidity samples and samples to be submitted for analysis, must be collected before the groundwater passes through the flow-through cell to prevent cross-contamination by potentially stagnant fluid within the flow-through cell. This can be accomplished by using a bypass assembly or disconnecting the tubing from the flow-cell inlet prior to sampling.



4.7. Well Evacuation

- 4.7.1. Calculate the volume of the standing water in the well based on the following information and record on the appropriate field form:

Well Diameter (inches)	Conversion Factor (gallons/foot)	Conversion Factor (liter/foot)
2	0.163	0.617
4	0.654	2.48
6	1.47	5.56

Alternatively, the volume of standing water in the well can be calculated using the equation noted below, with the measurement of the well radius (r) in inches:

$$3.14 \times (r/12)^2 \times 7.48 = \text{gallons per foot of standing water}$$

$$3.14 \times (r/12)^2 \times 28.3 = \text{liters per foot of standing water}$$

The total volume of water in the well using this equation or the above information is determined by multiplying the value calculated or indicated by the depth of standing water in the well.

- 4.7.2. Generally, a peristaltic pump, bladder, submersible, or air-lift pump equipped with appropriate tubing of inert materials (such as polyethylene), shall be used to evacuate the monitoring wells.
- 4.7.3. A new piece of polyethylene plastic shall be placed on the ground adjacent to the well. Sampling and purging equipment such as the pump, tubing, containers, etc., shall be placed on the polyethylene sheet and/or a plastic secondary containment unit, never on the ground.
- 4.7.4. The pumps and tubing shall be prepared for insertion into the well while wearing disposable gloves. Make sure that any tubing or pump apparatus is of sufficient length to reach the appropriate depth for pumping.



- 4.7.5. Lower the pump and/or tubing gently into the water column to the midpoint of the saturated portion of the screened interval, unless otherwise specified. A site-specific sampling plan may specify a specific sampling depth, or provide specific criteria for the selection of intake depth for each well, but as a default, the tubing/intake should be placed at the midpoint of the saturated portion of the screen. **Record the actual depth at which the tubing/intake is placed.** If the saturated portion of the screen is less than 3 feet, the tubing or pump intake should be placed no closer than 1 foot from the bottom of the well. If the column of water in the well is less than 6 inches, serious consideration must be given to sampling the well, since it is not clear that the water in the well will be representative of water in the aquifer. If samples are collected from a well under these conditions, the limited volume of water should be specifically noted in the field paperwork.

Start the pump at the lowest speed setting and slowly increase the speed until discharge occurs. The initial pumping rate shall be approximately 0.1 liters per minute, however, the pumping rate shall not exceed 0.25 liters per minute. Measure the water level to ensure that drawdown in excess of 0.3 feet does not occur in the well. Adjust the pumping rate as necessary until little or no drawdown occurs. At least one actual measurement of the pumping rate should be conducted once drawdown stabilizes. That measurement should be made using a suitable measurement device for the volume anticipated over a measurement period of at least 20 to 30 seconds. Record the actual pumping rate on the field sampling record.

If the drawdown exceeds 0.3 feet, reduce pumping rate if possible. If drawdown still does not stabilize at a depth above the pump intake, shut the pump down and allow the well to recharge. It should be noted that a stable drawdown of approximately 0.3 feet is desirable but not mandatory. Stabilization of the drawdown at a depth greater than 0.3 feet is acceptable, as long as the depth at which stabilization occurs is above the pump intake. However, it is important that the stabilization depth is clearly recorded and maintained.

- 4.7.6. Monitor and record the water level and pumping rate at a minimum of every three to five minutes during purging. Calculate the volume of the discharge tubing, bladder pump (if used), and the flow-through cell. Monitor and record indicator field parameters (turbidity, pH, Eh, DO, temperature and specific conductance) in the well from the first water extracted during the purging process and at least every three to



five minutes thereafter. Stabilization is considered to be achieved when three consecutive readings are within the following limits and no increasing or decreasing trend in the data can be observed:

- Turbidity (10% for values less than 5 and greater than 1 NTU). It should be noted that achievements of turbidity levels less than 5 NTUs are not mandatory but efforts should be made to collect a groundwater samples with the lowest turbidity achievable.
- DO (10%, measured as milligrams per liter).
- Specific Conductance and Temperature (3%).
- pH (+/- 0.1 unit).
- ORP/Eh (+/- 10 millivolts).

- 4.7.7. If after 2 hours of purging or the purging of three well volumes, (whichever comes first) the field parameters have not stabilized, purging may be discontinued to allow sample collection. Similarly, if it is not possible to obtain stabilization as described above as a result of slow recovery of the well, the well shall be evacuated and allowed to recover, at which point the samples should be collected immediately. The appropriate sampling forms shall include a notation that sample collection occurred without stabilization. Samples obtained from slow-yielding wells shall be collected as soon as a sufficient volume is available for a sample for each parameter.
- 4.7.8. Do **not** re-use purging equipment. Pumps shall be decontaminated between monitoring wells, in accordance with procedures noted in Section 4.1.
- 4.7.9. Record sampler's name, sampling time, volume of water purged, parameters measured, weather conditions, sample number, analyses required and all other pertinent information in the field notebook and/or appropriate field forms, and complete the chain of custody form.
- 4.7.10. Any water purged from the monitoring wells shall be stored in appropriate containers until the laboratory analyses are available. Then it should be disposed of in accordance with all applicable local, state and federal requirements.



- 4.7.11. Storage shall be in containers approved for storage of hazardous materials and in an appropriate designated location at the facility.

4.8. Sample Withdrawal

- 4.8.1. In order to ensure that the groundwater sample is representative of the formation, it is important to minimize physical alteration (i.e. agitation during purging and/or sample collection) or chemical contamination of the sample during the withdrawal process.

- 4.8.2. Use an appropriate pump to purge each well; the same pump used for purging shall be used for sample withdrawal.

- 4.8.3. The samples shall be collected at a location before entering the flow-through cell. To minimize the effects of water column agitation on sample quality, samples shall be collected from the pump tubing in the following order into pre-labeled sample containers:

- VOCs.
- Total petroleum hydrocarbons.
- Extractable organics (semivolatiles).
- PCBs.
- Metals.
- Phenols.
- Cyanide.
- Chloride and sulfate.
- Nitrate and ammonia.
- Turbidity.
- Radionuclides.
- Purgeable organic carbon (POCs).
- Purgeable organic halogens (POX).
- Total organic halogens (TOX).
- Total organic carbon (TOC).

- 4.8.4. Samples shall be obtained from the monitoring wells as soon as possible after purging. This may require waiting an extended period for low-yielding wells.



- 4.8.5. Samples collected for VOC analysis shall be free of any air bubbles and inverted upon filling. Bacterial samples shall be collected using dedicated gloves; taking care not to allow anything to touch the inside of the sampling container.
- 4.8.6. Samples collected for metals analysis, which are to be filtered in the field, shall be passed through an appropriately sized filter prior to placement in the sample bottle. Pre-rinse the filter with approximately 25 to 50 milliliters of groundwater prior to collecting the samples for filtered metals analyses. Filter sizes will generally be either 10 microns for metals that could be present as colloids or adsorbed onto colloids that could be mobile in the aquifer or 0.45 microns for dissolved metals. The appropriate filter size for the individual project must be provided in site-specific work instructions.

4.9. “What If” Scenarios

- 4.9.1. Certain field conditions may be encountered that influence the choice of equipment to be used or altogether limit the feasibility of low-flow sampling techniques. The following is a brief description of select scenarios to provide field personnel with a guideline if similar circumstances are encountered

4.9.2. Turbidity

- 4.9.2.1. If turbidity measurements do not stabilize as described above after 2 hours of purging or the evacuation of three well volumes, whichever comes first, sample collection can be initiated. Record observations of the color, clarity, and other observable characteristics of the groundwater (such as the presence or absence of particles) in the field paperwork
- 4.9.2.2. If samples are being collected for analysis for total (unfiltered) metals and the turbidity has not stabilized below 10 NTU, a sample for additional analysis for metals should also be collected after being filtered in the field through an in-line 10-micron filter, if specified in the work instructions.

4.9.3. Peristaltic Pump



- 4.9.3.1. Difficulty may be encountered while advancing the flexible polyethylene peristaltic pump tubing to the desired depth within a deep well or older well. Excessive friction may result from the tubing contacting the sidewall of the well casing or accumulations of material on the well casing (i.e. mineral and bacterial deposits). In these scenarios, the tubing may coil within the well during advancement and prevent the desired depth from being attained. Efforts to weight the tubing should be attempted before using alternate pumping techniques.
- 4.9.3.2. If such well conditions are expected, a bladder pump or other submersible pump should be used instead of a peristaltic pump. A bladder pump provides sufficient mass on the tubing to allow for advancement in deep or older wells.
- 4.9.3.3. A peristaltic pump cannot be used to sample wells in which the depth to water is greater than approximately 25 to 30 feet.

4.9.4. Sampling Depth

- 4.9.4.1. If conditions exist that prevent the appropriate pump or tubing from being advanced to the midpoint of the saturated portion of the screened interval, low-flow sampling techniques shall not be used. Instead, sampling shall be conducted using conventional purging and sampling techniques, as described in LEA SOP 10004 entitled *Liquid Sample Collection and Field Analysis*. Justification for not using low-flow sampling techniques must be provided in the field paperwork.

4.10. Field Documentation

- 4.10.1. Field documentation shall include at a minimum: a chain-of-custody form, Field Data Record Groundwater Form, Sample Collection Form, Daily Field Report. Sample labels and sample seals shall be used for proper sample identification.
 - 4.10.1.1. The labels shall be sufficiently durable to withstand immersion for 48 hours without detaching and to withstand



normal handling. The information provided shall be legible at all times.

4.10.1.2. The following information shall be provided on the sample label using an indelible pen:

- Sample identification number.
- Date and time of collection.
- Place of collection.
- Parameter(s) requested (if space permits).

4.10.1.3. Appropriate field forms will be used to log all pertinent information with an indelible pen. The following information shall be provided:

- Project and site identification.
- LEA commission number.
- Identification of well.
- Static water level measurement technique.
- Presence of immiscible layers and detection method.
- Time well purged.
- Collection method for immiscible layers and sample identification numbers.
- Well evacuation procedure/equipment.
- Sample withdrawal procedure/equipment.
- Date and time of collection.
- Types of sample containers used and sample identification numbers.
- Preservative(s) used.
- Parameters requested for analysis.
- Field analysis method(s).
- Whether or not field filtration was performed and the filter size, if appropriate.
- Field observations on day of sampling event.



- Record of site activities.
- Field personnel.
- Climatic conditions, including air temperature.
- Status of total production.
- Record of non-productive time.

4.10.1.4. The Field Sampling Record shall include at a minimum the following information:

- Identification of well.
- Date and time of collection.
- Name of collector.
- Sample number.

4.10.1.5. The chain-of-custody record shall include the following information:

- Company's name and location.
- Date and time of collection.
- Sample number.
- Container type, number, size.
- Preservative used.
- Signature of collector.
- Signatures of persons involved in the chain of possession.
- Analyses to be performed.
- Type and number of samples.

4.10.1.6. The Field Data Record Groundwater Form shall be updated during the sampling of each well and include the following information:

- Identification of well.
- Well depth, diameter, depth to water.
- Static water level depth and measurement technique.



- Purge volume and pumping rate.
- Time well is purged.
- Measurements of initial field parameters and all subsequent readings.
- Any specific circumstances, as described above, such as field filtering, lack of stabilization of parameters, water characteristics, etc.
- LEA commission number.
- Date.
- Depth of pump intake or tubing intake

4.10.1.7. The Daily Field Record shall include the following information:

- Client's name, location, LEA commission number, date.
- Instrument make, model, and type.
- Calibration readings.
- Calibration/filtration lot numbers.
- Field personnel and signature.

4.10.1.8. The Daily Field Record shall assure the completeness of the sampling round and include the following information:

- Reviewer's name, date, and LEA commission number.
- Review of all necessary site activities and field forms.
- Statement of corrective actions for deficiencies.

5. References

- 5.1. United States Environmental Protection Agency (EPA), Region I. *Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells*, July 30, 1996, Revision 2.
- 5.2. EPA. *Groundwater Sampling Guidelines for Superfund and RCRA Project Managers – Groundwater Forum Issue Paper*, Office of Solid Waste and Emergency Response, (EPA 542-S-02-001), May 2002.



- 5.3. Robert W. Puls and Michael Barcelona, EPA. *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures*, in Groundwater Issue, (EPA/540/S-95/504), April 1996.

END OF DOCUMENT



**Loureiro Engineering Associates, Inc.
Standard Operating Procedure
for
Quality Assurance/Quality Control Measures
for
Field Activities**

**SOP ID: 10005
Date Initiated: 02/20/90
Revision No. 004: 12/31/01**

Approved By: <u>/s/ Jeffrey J. Loureiro</u>	<u>12/19/01</u>
Jeffrey J. Loureiro	Date
President	
 <u>/s/ Nick D. Skoularikis</u>	 <u>12/19/01</u>
Nick D. Skoularikis	Date
Director of Quality	

REVISION RECORD

<u>Rev #</u>	<u>Date</u>	<u>Additions/Deletions/Modifications</u>
Initial Issue	02/20/90	
001-003	-	No record.
004	12/31/01	Updated to reflect new SOP format. Added section 4.3, Results Evaluation. Minor revisions throughout.



Loureiro Engineering Associates, Inc.
Standard Operating Procedure
for
Quality Assurance/Quality Control Measures
for
Field Activities

1. Statement of Purpose

This document describes procedures to be followed for proper Quality Assurance Quality Control (QA/QC) practices which shall incorporate all activities associated with sampling tool and instrument preparation, field measurements and sampling, proper documentation of field and post-field activities, QC sample preparation, chain-of-custody protocol and laboratory analytical procedures. The use of specific QA/QC measures is project-specific as defined in the project work plan. This standard operating procedure (SOP) was adopted in accordance with the Environmental Protection Agency (EPA) document *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (SW-846).

2. Definitions

- 2.1. Trip Blank: An aliquot of organic-free water or equivalent neutral reference material carried into the field but not exposed.
- 2.2. Equipment Blank: An aliquot of analyte-free deionized water processed through all sample collection equipment.
- 2.3. Replicate Samples: Samples that have been divided into two or more portions in the field.
- 2.4. Collocated Samples: Independent samples collected under identical circumstances in a way that they are equally representative of the parameter of interest.
- 2.5. Performance Evaluation (PE) Sample: A sample that mimics actual samples in all possible aspects, except that its composition is known to the auditor and unknown to the analyst.

3. Equipment

None



4. Procedure

4.1. General

4.1.1. All QA/QC sample preparation procedures shall be properly documented including:

- Name of person(s) or laboratory involved in sample preparation.
- Reagents used.
- Sample number.
- Analyses required.
- Concentration calculations.
- Accuracy of measurements.
- Number, type, size of containers used.
- Preservation method.
- Date and time of sample preparation.

4.1.2. All information shall be included in the field logbook and/or appropriate field forms, but not necessarily in the chain-of-custody record except as needed for proper sample identification and analysis. Blind sample numbers are being used in order not to disclose the nature of the sample to the laboratory. No information that would identify the sample as a QA/QC sample shall be included in the chain-of-custody record.

4.1.3. At the conclusion of each sampling day, a quality control review shall be conducted using the Field Quality Review Checklist and the Daily Field Report.

4.2. QC Sample Preparation

4.2.1. Trip Blank

4.2.1.1. Contaminated trip blanks may indicate contamination of the samples during the field trip or shipment to the lab, cross-contamination between the samples, contaminated sample vials, or improper handling.

4.2.1.2. Trip blanks shall be used only with samples that are to be analyzed for volatile organic compounds.



- 4.2.1.3. One trip blank shall be included per shipping container (cooler) carrying sample soil and/or groundwater samples that are to be analyzed for volatile organic compounds
- 4.2.1.4. Trip blanks are prepared using analyte-free deionized organic-free water prior to field activities associated with the sampling event, usually by the laboratory providing the sampling containers. Each trip blank is placed in a 40-ml glass VOA vial and is carried in the same shipping container as the sample(s). Trip blanks should not be opened at any time during transport.

4.2.2. Equipment Blank

- 4.2.2.1. The purpose of an equipment/rinsate blank is to determine if decontamination procedures were adequate or if any of the equipment might contribute contaminants to the sample.
- 4.2.2.2. An equipment blank is prepared by running analyte-free deionized water through all sample collection equipment (bailers, pumps, filters, split-spoon) and placing it in the appropriate sample containers for analysis. If equipment has been decontaminated in the field, the equipment blank shall be collected after decontamination procedures have been performed.
- 4.2.2.3. Equipment blanks shall be used when sampling surface water, groundwater, soil, and sediment.
- 4.2.2.4. One equipment blank shall be collected for each sample bottle/preservation technique/analysis procedure per matrix per sampling event, or as otherwise specified in project-specific documents.

4.2.3. Replicate Samples

- 4.2.3.1. Replicate samples provide precision information on handling, shipping, storage, preparation and laboratory analysis.
- 4.2.3.2. Replicate samples are samples that have been divided into two or more portions in the field. An example of a replicate sample is two identical sample bottles filled with water from the same bailer retrieval. To ensure homogeneity, the bailer should be emptied into a clean, decontaminated beaker used exclusively



for the purpose and containing sufficient volume for both sample containers, and from that into the sample containers.

- 4.2.3.3. Replicate samples cannot be used when sampling for volatile organic compounds.
- 4.2.3.4. One replicate sample shall be obtained for each sample bottle/preservation technique/analysis procedure per sampling event or one out of every 20 samples, unless collocated samples are used (see below), or as otherwise specified in project-specific documents.

4.2.4. Collocated Samples

- 4.2.4.1. Collocated samples provide precision information on sample acquisition, homogeneity, handling, shipping, storage, preparation and laboratory analysis.
- 4.2.4.2. Collocated samples are independent samples collected in such a way so that presumably they are equally representative of the parameter of interest. Examples of collocated samples are groundwater samples collected sequentially, soil core samples collected side-by-side, or air samples collected essentially at the same time from the same manifold.
- 4.2.4.3. Collocated samples are especially useful when sampling for volatile organic compounds, for which replicate samples cannot be used.
- 4.2.4.4. Collocated samples shall be obtained for each sample bottle/preservation technique/analysis procedure per sampling event or one out of every 20 samples, unless replicate samples are used (see above), or as otherwise specified in project-specific documents.

4.2.5. Split Samples

- 4.2.5.1. The purpose of split samples is to provide an assessment of the laboratory analytical procedure.
- 4.2.5.2. Split samples are collocated or replicate samples sent to two (or more) different laboratories.
- 4.2.5.3. Split samples can be used with any sample media. Split samples can be used in conjunction with spiked samples (see



below). In case contradictory results are obtained from the samples split between different laboratories, the spiked samples can be used to verify the analytical data (provided that the spiked samples were properly prepared and the appropriate documentation is available).

- 4.2.5.4. When used, one split/spiked sample per sample bottle/preservation technique/analysis procedure per sampling event or every 20 samples shall be included, or as specified in project-specific documents.

4.2.6. Spiked Samples

- 4.2.6.1. The purpose of spiked samples is to provide information on the precision of the laboratory analytical procedure. However, besides a wrong preparation, several other sources of error exist such as analyte stability, holding time and interactions with the sample matrix.
- 4.2.6.2. Spiked samples are samples spiked with the contaminants of interest. The compounds used for spiking should be of the same chemical group as the contaminants being investigated, but they do not have to be the exact chemical compounds. Spiking should be carefully designed and performed prior to the field investigations. Field matrix spikes are not generally recommended because of the high level of technical expertise required for proper preparation and documentation.
- 4.2.6.3. Can be used with any sample media, however, liquid matrices are preferred due to uniformity of mixing.
- 4.2.6.4. When used, one split/spiked sample per sample bottle/preservation technique/analysis procedure per sampling event or every 20 samples shall be included, or as otherwise specified in project-specific documents. In order to ensure defensible data, performance evaluation (PE) samples, prepared by an independent vendor, are typically being used. The ordering and handling procedures and record keeping requirements are discussed in Loureiro Engineering Associates, Inc. (LEA's) *SOP for Preparation of PE Samples* (SOP 10030).



4.3. Result Evaluation

4.3.1. The analytical results on QA/QC samples should be evaluated along with the remaining analytical data as follows:

4.3.1.1. No constituents should be detected in the trip blank or equipment blank.

4.3.1.2. The relative percent differences (RPDs) shall be computed for all constituents detected in both duplicate samples used.

The RPD between two measurements (e.g., M1 and M2) is calculated as follows:

$$RPD = \frac{|M1 - M2|}{(M1 + M2)/2} \times 100\%$$

4.3.1.3. Any deviations in the performance evaluation samples shall be brought to the attention of the laboratory. An investigation shall then be performed by the laboratory of the method used, laboratory QA/QC procedures followed, and computations performed. The laboratory shall report the results of their investigation and any corrective actions taken.

5. References

5.1. EPA, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (SW-846).

END OF DOCUMENT



ATTACHMENT C-2

Performance Evaluation Sample Results

RESULTS OF PERFORMANCE SAMPLE EVALUATION

Pratt & Whitney, East Hartford, Connecticut: Willow Pond



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Location Identifier: Performance

Sample Identifier 1266371 09/27/2012 08:57 Performance Evaluation, Water

Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	Result
1,1,1,2-Tetrachloroethane	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
1,1,1-Trichloroethane	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
1,1,2,2-Tetrachloroethane	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
1,1,2-Trichloroethane	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
1,1,2-Trichlorotrifluoroethane	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
1,1-Dichloroethane	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
1,1-Dichloroethylene	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
1,1-Dichloropropene	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
1,2,3-Trichlorobenzene	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
1,2,3-Trichloropropane	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
1,2,4-Trichlorobenzene	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
1,2,4-Trimethylbenzene	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
1,2-Dibromo-3-Chloropropane	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
1,2-Dichloroethane	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
1,2-Dichloropropane	ND<2.0	U	2.0	2.0	ug/L	1	ACTM	MC14490-3				
1,3,5-Trimethylbenzene	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
1,3-Dichloropropane	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
2-Hexanone	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
4-Isopropyltoluene	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
Acetone	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
Acrylonitrile	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
Benzene	ND<0.50	U	0.50	0.50	ug/L	1	ACTM	MC14490-3				
Bromobenzene	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
Bromodichloromethane	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
Bromoform	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
Bromomethane	ND<2.0	U	2.0	2.0	ug/L	1	ACTM	MC14490-3				
Butyl Benzene	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
Carbon Disulfide	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
Carbon Tetrachloride	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
Chlorobenzene	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
Chlorodibromomethane	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
Chloroethane	ND<2.0	U	2.0	2.0	ug/L	1	ACTM	MC14490-3				
Chloroform	2.6		1.0		ug/L	1	ACTM	MC14490-3				FALSE POSITIVE
Chloromethane	ND<2.0	U	2.0	2.0	ug/L	1	ACTM	MC14490-3				
Dichlorodifluoromethane	ND<2.0	U	2.0	2.0	ug/L	1	ACTM	MC14490-3				

RESULTS OF PERFORMANCE SAMPLE EVALUATION

Pratt & Whitney, East Hartford, Connecticut: Willow Pond



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Ethylbenzene	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
Ethylene Dibromide	ND<2.0	U	2.0	2.0	ug/L	1	ACTM	MC14490-3				
Hexachlorobutadiene	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
Isopropylbenzene (Cumene)	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
Methyl Ethyl ketone	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
Methyl Isobutyl ketone	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
Methyl tert-Butyl ether	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
Methylene Chloride	ND<2.0	U	2.0	2.0	ug/L	1	ACTM	MC14490-3				
Methylene Dibromide	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
Naphthalene	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
Propylbenzene	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
Styrene	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
Tetrachloroethylene	142		1.0		ug/L	1	ACTM	MC14490-3	62.0	74.2	39.1	FAIL
Tetrahydrofuran	ND<10	U	10	10	ug/L	1	ACTM	MC14490-3				
Toluene	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
Trichloroethylene	288		25		ug/L	25	ACTM	MC14490-3	92.0	110	68.0	FAIL
Trichlorofluoromethane	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
Vinyl Chloride	327		1.0		ug/L	1	ACTM	MC14490-3	34.0	51.0	19.9	FAIL
Xylenes,m- & p-	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
cis-1,2-Dichloroethylene	349		25		ug/L	25	ACTM	MC14490-3	84.8	104	66.7	FAIL
cis-1,3-Dichloropropene	ND<0.50	U	0.50	0.50	ug/L	1	ACTM	MC14490-3				
m-Dichlorobenzene	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
o-Chlorotoluene	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
o-Dichlorobenzene	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
o-Xylene	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
p-Chlorotoluene	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
p-Dichlorobenzene	ND<1.0	U	1.0	1.0	ug/L	1	ACTM	MC14490-3				
sec-Butylbenzene	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
sec-Dichloropropane	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
tert-Butylbenzene	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				
trans-1,2-Dichloroethylene	228		1.0		ug/L	1	ACTM	MC14490-3	98.1	124	73.8	FAIL
trans-1,3-Dichloropropene	ND<0.50	U	0.50	0.50	ug/L	1	ACTM	MC14490-3				
trans-1,4-Dichlorobutene	ND<5.0	U	5.0	5.0	ug/L	1	ACTM	MC14490-3				

Location Identifier: Performance

Sample Identifier 1266372 09/27/2012 09:00 Performance Evaluation, Water

Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	Result
Arsenic (unfiltered)	0.0067		0.0040	0.00099	mg/L	1	ACTM	MC14490-4	0.00700	0.00769	0.00605	Pass
Barium (unfiltered)	0.388		0.05	0.00028	mg/L	1	ACTM	MC14490-4	0.400	0.435	0.364	Pass

RESULTS OF PERFORMANCE SAMPLE EVALUATION

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Cadmium (unfiltered)	0.0937		0.0040	0.00019	mg/L	1	ACTM	MC14490-4	0.100	0.106	0.0877	Pass
Chromium, Total (unfiltered)	0.2		0.01	0.0006	mg/L	1	ACTM	MC14490-4	0.200	0.218	0.182	Pass
Copper (unfiltered)	0.0396		0.025	0.00085	mg/L	1	ACTM	MC14490-4	0.0400	0.0436	0.0360	Pass
Lead (unfiltered)	ND<0.0050	U	0.0050	0.0013	mg/L	1	ACTM	MC14490-4				
Mercury (unfiltered)	ND<0.00020	U	0.00020	0.000011	mg/L	1	ACTM	MC14490-4				
Nickel (unfiltered)	0.581		0.04	0.00025	mg/L	1	ACTM	MC14490-4	0.600	0.657	0.544	Pass
Selenium (unfiltered)	ND<0.01	U	0.01	0.0014	mg/L	1	ACTM	MC14490-4				
Silver (unfiltered)	ND<0.0050	U	0.0050	0.00069	mg/L	1	ACTM	MC14490-4				
Zinc (unfiltered)	0.0300		0.02	0.00033	mg/L	1	ACTM	MC14490-4	0.0300	0.0331	0.0272	Pass

Location Identifier: Performance

Sample Identifier 1266373 09/27/2012 09:45 Performance Evaluation, Water

Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	Result
Arochlor 1016	ND<0.25	U	0.25	0.25	ug/L	1	ACTM	MC14490-5				
Arochlor 1221	ND<0.25	U	0.25	0.25	ug/L	1	ACTM	MC14490-5				
Arochlor 1232	ND<0.25	U	0.25	0.25	ug/L	1	ACTM	MC14490-5				
Arochlor 1242	ND<0.25	U	0.25	0.25	ug/L	1	ACTM	MC14490-5				
Arochlor 1248	1.0		0.25		ug/L	1	ACTM	MC14490-5	1.29	1.77	0.669	Pass
Arochlor 1254	ND<0.25	U	0.25	0.25	ug/L	1	ACTM	MC14490-5				
Arochlor 1260	ND<0.25	U	0.25	0.25	ug/L	1	ACTM	MC14490-5				
Arochlor 1262	ND<0.25	U	0.25	0.25	ug/L	1	ACTM	MC14490-5				
Arochlor 1268	ND<0.25	U	0.25	0.25	ug/L	1	ACTM	MC14490-5				

Location Identifier: Performance

Sample Identifier 1266374 09/27/2012 10:30 Performance Evaluation, Water

Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	Result
Total Petroleum Hydrocarbons (CT ETPH)	0.706		0.080		mg/L	1	ACTM	MC14490-6	1.500	1.820	0.457	Pass

ATTACHMENT C-3

Data Quality Assessment Worksheets

CT DEEP Reasonable Confidence Protocol - Data Quality Assessment Worksheet

Project: UTC PWEH Willow Pond GWM 2012
 Commission #: 88UT230
 Laboratory: Accutest
 SDG: MC9052
 Date Samples Collected: 3/26/2012



Note 1: Initial and continuing continuing calibration QC non-conformances have been evaluated but are not included in the following DQA spreadsheet.
 Note 2: Bias High: reported result may be lower, RLs are accepted as reported.
 Bias Low: reported result may be higher, RLs may be higher.
 Note 3: Only samples with QC non-conformances are included below.

Location ID	Depth	Sample Number / Lab Number	Batch ID/QC	Dilution	Parameter	Parameter Type	Outlier (%)	Low Limit	High Limit	Bias	Footnotes
WT-MW-46	NA	1255889 (MC9052-1)	MSN2310-BS	1	2,2-Dichloropropane	REC	66	70	130	Low	
WT-MW-46	NA	1255889 (MC9052-1)	MSN2310-BS	1	2-Butanone (MEK)	REC	163	70	130	High	
WT-MW-46	NA	1255889 (MC9052-1)	MSN2310-BS	1	2-Hexanone	REC	145	70	130	High	
WT-MW-46	NA	1255889 (MC9052-1)	MSN2310-BS	1	Acetone	REC	165	70	130	High	
WT-MW-46	NA	1255889 (MC9052-1)	MSN2310-BS	1	Acrylonitrile	REC	498	70	130	High	
WT-MW-46	NA	1255889 (MC9052-1)	MSN2310-BS	1	Methyl Tert Butyl Ether	REC	63	70	130	Low	
WT-MW-48	NA	1255890 (MC9052-3)	MSN2310-BS	1	2,2-Dichloropropane	REC	66	70	130	Low	
WT-MW-48	NA	1255890 (MC9052-3)	MSN2310-BS	1	2-Butanone (MEK)	REC	163	70	130	High	
WT-MW-48	NA	1255890 (MC9052-3)	MSN2310-BS	1	2-Hexanone	REC	145	70	130	High	
WT-MW-48	NA	1255890 (MC9052-3)	MSN2310-BS	1	Acetone	REC	165	70	130	High	
WT-MW-48	NA	1255890 (MC9052-3)	MSN2310-BS	1	Acrylonitrile	REC	498	70	130	High	
WT-MW-48	NA	1255890 (MC9052-3)	MSN2310-BS	1	Methyl Tert Butyl Ether	REC	63	70	130	Low	
WT-MW-56S	NA	1255892 (MC9052-5)	MSN2310-BS	1	2,2-Dichloropropane	REC	66	70	130	Low	
WT-MW-56S	NA	1255892 (MC9052-5)	MSN2310-BS	1	2-Butanone (MEK)	REC	163	70	130	High	
WT-MW-56S	NA	1255892 (MC9052-5)	MSN2310-BS	1	2-Hexanone	REC	145	70	130	High	
WT-MW-56S	NA	1255892 (MC9052-5)	MSN2310-BS	1	Acetone	REC	165	70	130	High	
WT-MW-56S	NA	1255892 (MC9052-5)	MSN2310-BS	1	Acrylonitrile	REC	498	70	130	High	
WT-MW-56S	NA	1255892 (MC9052-5)	MSN2310-BS	1	Methyl Tert Butyl Ether	REC	63	70	130	Low	
WT-MW-47	NA	1255893 (MC9052-6)	MSN2310-BS	1	2,2-Dichloropropane	REC	66	70	130	Low	
WT-MW-47	NA	1255893 (MC9052-6)	MSN2310-BS	1	2-Butanone (MEK)	REC	163	70	130	High	
WT-MW-47	NA	1255893 (MC9052-6)	MSN2310-BS	1	2-Hexanone	REC	145	70	130	High	
WT-MW-47	NA	1255893 (MC9052-6)	MSN2310-BS	1	Acetone	REC	165	70	130	High	
WT-MW-47	NA	1255893 (MC9052-6)	MSN2310-BS	1	Acrylonitrile	REC	498	70	130	High	
WT-MW-47	NA	1255893 (MC9052-6)	MSN2310-BS	1	Methyl Tert Butyl Ether	REC	63	70	130	Low	
WT-MW-57	NA	1255894 (MC9052-8)	MSN2310-BS	1	2,2-Dichloropropane	REC	66	70	130	Low	
WT-MW-57	NA	1255894 (MC9052-8)	MSN2310-BS	1	2-Butanone (MEK)	REC	163	70	130	High	
WT-MW-57	NA	1255894 (MC9052-8)	MSN2310-BS	1	2-Hexanone	REC	145	70	130	High	
WT-MW-57	NA	1255894 (MC9052-8)	MSN2310-BS	1	Acetone	REC	165	70	130	High	
WT-MW-57	NA	1255894 (MC9052-8)	MSN2310-BS	1	Acrylonitrile	REC	498	70	130	High	
WT-MW-57	NA	1255894 (MC9052-8)	MSN2310-BS	1	Methyl Tert Butyl Ether	REC	63	70	130	Low	
EQUIPMENT	NA	1255903 (MC9052-10)	MSN2310-BS	1	2,2-Dichloropropane	REC	66	70	130	Low	
EQUIPMENT	NA	1255903 (MC9052-10)	MSN2310-BS	1	2-Butanone (MEK)	REC	163	70	130	High	
EQUIPMENT	NA	1255903 (MC9052-10)	MSN2310-BS	1	2-Hexanone	REC	145	70	130	High	
EQUIPMENT	NA	1255903 (MC9052-10)	MSN2310-BS	1	Acetone	REC	165	70	130	High	
EQUIPMENT	NA	1255903 (MC9052-10)	MSN2310-BS	1	Acrylonitrile	REC	498	70	130	High	
EQUIPMENT	NA	1255903 (MC9052-10)	MSN2310-BS	1	Methyl Tert Butyl Ether	REC	63	70	130	Low	
TRIP BLANK	NA	1255904 (MC9052-12)	MSN2314-BS	1	2-Butanone (MEK)	REC	149	70	130	High	
TRIP BLANK	NA	1255904 (MC9052-12)	MSN2314-BS	1	2-Hexanone	REC	134	70	130	High	
TRIP BLANK	NA	1255904 (MC9052-12)	MSN2314-BS	1	Acetone	REC	159	70	130	High	

CT DEEP Reasonable Confidence Protocol - Data Quality Assessment Worksheet

Project: UTC PWEH Willow Pond GWM 2012
Commission #: 88UT230
Laboratory: Accutest
SDG: MC9052
Date Samples Collected: 3/26/2012



Note 1: Initial and continuing calibration QC non-conformances have been evaluated but are not included in the following DQA spreadsheet.
Note 2: Bias High: reported result may be lower, RLS are accepted as reported.
 Bias Low: reported result may be higher, RLS may be higher.
Note 3: Only samples with QC non-conformances are included below.

Location ID	Depth	Sample Number / Lab Number	Batch ID/QC	Dilution	Parameter	Parameter Type	Outlier (%)	Low Limit	High Limit	Bias	Footnotes
TRIP BLANK	NA	1255904 (MC9052-12)	MSN2314-BS	1	Acrylonitrile	REC	456	70	130	High	
TRIP BLANK	NA	1255904 (MC9052-12)	MSN2314-BS	1	Methyl Tert Butyl Ether	REC	67	70	130	Low	

CT DEEP Reasonable Confidence Protocol - Data Quality Assessment Worksheet

Project: UTC PWEH Willow Pond GWM 2012
Commission #: 88UT230
Laboratory: Accutest
SDG: MC9090
Date Samples Collected: 3/27/2012



Note 1: Initial and continuing calibration QC non-conformances have been evaluated but are not included in the following DQA spreadsheet.
Note 2: Bias High: reported result may be lower, RLs are accepted as reported.
 Bias Low: reported result may be higher, RLs may be higher.
Note 3: Only samples with QC non-conformances are included below.

Location ID	Depth	Sample Number / Lab Number	Batch ID/QC	Dilution	Parameter	Parameter Type	Outlier (%)	Low Limit	High Limit	Bias	Footnotes
WT-MW-50	NA	1255898	MC9090-9	10	All VOCs	SURR	139	70	130	High	
WT-MW-58	NA	1255899	MC9090-11	5	All VOCs	SURR	134	70	130	High	
WT-MW-59	NA	1255900	MC9090-13	1	All PCBs	SURR	203	30	150	High	
WT-MW-44	NA	1255891 (MC9090-1)	MSN2321-BS	1	2,2-Dichloropropane	REC	58	70	130	Low	
WT-MW-44	NA	1255891 (MC9090-1)	MSN2321-BS	1	2-Butanone (MEK)	REC	144	70	130	High	
WT-MW-44	NA	1255891 (MC9090-1)	MSN2321-BS	1	2-Hexanone	REC	134	70	130	High	
WT-MW-44	NA	1255891 (MC9090-1)	MSN2321-BS	1	Acetone	REC	144	70	130	High	
WT-MW-44	NA	1255891 (MC9090-1)	MSN2321-BS	1	Acrylonitrile	REC	450	70	130	High	
WT-MW-44	NA	1255891 (MC9090-1)	MC9090-7MS	5	Acrylonitrile	REC	512	70	130	High	
WT-MW-40	NA	1255895 (MC9090-3)	MSN2321-BS	1	2,2-Dichloropropane	REC	58	70	130	Low	
WT-MW-40	NA	1255895 (MC9090-3)	MSN2321-BS	1	2-Butanone (MEK)	REC	144	70	130	High	
WT-MW-40	NA	1255895 (MC9090-3)	MSN2321-BS	1	2-Hexanone	REC	134	70	130	High	
WT-MW-40	NA	1255895 (MC9090-3)	MSN2321-BS	1	Acetone	REC	144	70	130	High	
WT-MW-40	NA	1255895 (MC9090-3)	MSN2321-BS	1	Acrylonitrile	REC	450	70	130	High	
WT-MW-40	NA	1255895 (MC9090-3)	MC9090-7MS	5	Acrylonitrile	REC	512	70	130	High	
WT-MW-42	NA	1255896 (MC9090-5)	MSN2321-BS	1	2,2-Dichloropropane	REC	58	70	130	Low	
WT-MW-42	NA	1255896 (MC9090-5)	MSN2321-BS	1	2-Butanone (MEK)	REC	144	70	130	High	
WT-MW-42	NA	1255896 (MC9090-5)	MSN2321-BS	1	2-Hexanone	REC	134	70	130	High	
WT-MW-42	NA	1255896 (MC9090-5)	MSN2321-BS	1	Acetone	REC	144	70	130	High	
WT-MW-42	NA	1255896 (MC9090-5)	MSN2321-BS	1	Acrylonitrile	REC	450	70	130	High	
WT-MW-42	NA	1255896 (MC9090-5)	MC9090-7MS	5	Acrylonitrile	REC	512	70	130	High	
WT-MW-19I	NA	1255897 (MC9090-7)	MSN2321-BS	1	2,2-Dichloropropane	REC	58	70	130	Low	
WT-MW-19I	NA	1255897 (MC9090-7)	MSN2321-BS	1	2-Butanone (MEK)	REC	144	70	130	High	
WT-MW-19I	NA	1255897 (MC9090-7)	MSN2321-BS	1	2-Hexanone	REC	134	70	130	High	
WT-MW-19I	NA	1255897 (MC9090-7)	MSN2321-BS	1	Acetone	REC	144	70	130	High	
WT-MW-19I	NA	1255897 (MC9090-7)	MSN2321-BS	1	Acrylonitrile	REC	450	70	130	High	
WT-MW-19I	NA	1255897 (MC9090-7)	MC9090-7MS	5	Acrylonitrile	REC	512	70	130	High	
WT-MW-50	NA	1255898 (MC9090-9)	MSL2090-BS	1	Acetone	REC	178	70	130	High	
WT-MW-50	NA	1255898 (MC9090-9)	MSL2090-BS	1	Dichlorodifluoromethane	REC	141	70	130	High	
WT-MW-58	NA	1255899 (MC9090-11)	MSL2090-BS	1	Acetone	REC	178	70	130	High	
WT-MW-58	NA	1255899 (MC9090-11)	MSL2090-BS	1	Dichlorodifluoromethane	REC	141	70	130	High	
WT-MW-59	NA	1255900 (MC9090-13)	MSV290-BS	1	2-Butanone (MEK)	REC	134	70	130	High	
WT-MW-59	NA	1255900 (MC9090-13)	MSV290-BS	1	Acetone	REC	132	70	130	High	
WT-MW-59	NA	1255900 (MC9090-13)	MSV290-BS	1	Acrylonitrile	REC	566	70	130	High	
WT-MW-50	NA	1255901 (MC9090-15)	MSL2090-BS	1	Acetone	REC	178	70	130	High	
WT-MW-50	NA	1255901 (MC9090-15)	MSL2090-BS	1	Dichlorodifluoromethane	REC	141	70	130	High	
TRIP BLANK	NA	1255902 (MC9090-17)	MSV290-BS	1	2-Butanone (MEK)	REC	134	70	130	High	
TRIP BLANK	NA	1255902 (MC9090-17)	MSV290-BS	1	Acetone	REC	132	70	130	High	
TRIP BLANK	NA	1255902 (MC9090-17)	MSV290-BS	1	Acrylonitrile	REC	566	70	130	High	

CT DEEP Reasonable Confidence Protocol - Data Quality Assessment Worksheet

Project: UTC PWEH Willow Pond GWM 2012
Commission #: 88UT230
Laboratory: Accutest
SDG: MC13777
Date Samples Collected: 9/6/2012



Note 1: Initial and continuing calibration QC non-conformances have been evaluated but are not included in the following DQA spreadsheet.
Note 2: Bias High: reported result may be lower, RLs are accepted as reported.
 Bias Low: reported result may be higher, RLs may be higher.
Note 3: Only samples with QC non-conformances are included below.

Location ID	Depth	Sample Number / Lab Number	Batch ID/QC	Dilution	Parameter	Parameter Type	Outlier (%)	Low Limit	High Limit	Bias	Footnotes
EQUIPMENT	NA	1264889 (MC13777-8)	MSL3186-BS	1	Bromomethane	REC	59	70	130	Low	
EQUIPMENT	NA	1264889 (MC13777-8)	MSL3186-BS	1	Acetone	REC	134	70	130	High	
TRIP BLANK	NA	1264990 (MC13777-5)	MSL3186-BS	1	Bromomethane	REC	59	70	130	Low	
TRIP BLANK	NA	1264990 (MC13777-5)	MSL3186-BS	1	Acetone	REC	134	70	130	High	
WT-MW-19I	NA	1264981 (MC13777-12)	MSL3186-BS	1	Bromomethane	REC	59	70	130	Low	
WT-MW-19I	NA	1264981 (MC13777-12)	MSL3186-BS	1	Acetone	REC	134	70	130	High	
WT-MW-40	NA	1264978 (MC13777-14)	MSL3186-BS	1	Bromomethane	REC	59	70	130	Low	
WT-MW-40	NA	1264978 (MC13777-14)	MSL3186-BS	1	Acetone	REC	134	70	130	High	
WT-MW-44	NA	1264976 (MC13777-16)	MSL3186-BS	1	Bromomethane	REC	59	70	130	Low	
WT-MW-44	NA	1264976 (MC13777-16)	MSL3186-BS	1	Acetone	REC	134	70	130	High	
WT-MW-50	NA	1264979 (MC13777-1)	MC13777-1MSD	5	Bromomethane	RPD	34	NA	30	non-directional	Outside control limits. Blank Spike meets program technical requirements.
WT-MW-50	NA	1264979 (MC13777-1)	MC13777-1MS	5	Bromomethane	REC	37	70	130	Low	Outside control limits. Blank Spike meets program technical requirements.
WT-MW-50	NA	1264979 (MC13777-1)	MC13777-1MS	5	Trichloroethene	REC	43	70	130	Low	Outside control limits due to possible matrix interference. Refer to Blank Spike.
WT-MW-50	NA	1264979 (MC13777-1)	MSL3186-BS	1	Bromomethane	REC	59	70	130	Low	
WT-MW-50	NA	1264979 (MC13777-1)	MSL3186-BS	1	Acetone	REC	134	70	130	High	
WT-MW-50	NA	1264979 (MC13777-1)	MC13777-1MS	5	Acetone	REC	202	70	130	High	Outside control limits. Blank Spike meets program technical requirements.
WT-MW-50	NA	1264991 (MC13777-3)	MSL3186-BS	1	Bromomethane	REC	59	70	130	Low	
WT-MW-50	NA	1264991 (MC13777-3)	MSL3186-BS	1	Acetone	REC	134	70	130	High	
WT-MW-58	NA	1264980 (MC13777-6)	MC13777-6	10	All VOCs	SURR	69	70	130	Low	due to dilution
WT-MW-58	NA	1264980 (MC13777-6)	MSP2106-MB	1	n-Butylbenzene	MB	5.2	0.68		High	
WT-MW-58	NA	1264980 (MC13777-6)	MSP2106-MB	1	Naphthalene	MB	11.1	0.44		High	
WT-MW-58	NA	1264980 (MC13777-6)	MSL3186-BS	1	Bromomethane	REC	59	70	130	Low	
WT-MW-58	NA	1264980 (MC13777-6)	MSL3186-BS	1	Acetone	REC	134	70	130	High	
WT-MW-58	NA	1264980 (MC13777-6)	MSP2106-BS	1	2-Hexanone	REC	138	70	130	High	
WT-MW-58	NA	1264980 (MC13777-6)	MSP2106-BS	1	Acetone	REC	149	70	130	High	
WT-MW-59	NA	1264977 (MC13777-10)	MSL3186-BS	1	Bromomethane	REC	59	70	130	Low	
WT-MW-59	NA	1264977 (MC13777-10)	MSL3186-BS	1	Acetone	REC	134	70	130	High	

CT DEEP Reasonable Confidence Protocol - Data Quality Assessment Worksheet

Project: UTC PWEH Willow Pond GWM 2012
Commission #: 88UT230
Laboratory: Accutest
SDG: MC13777A
Date Samples Collected: 9/6/2012



Note 1: Initial and continuing calibration QC non-conformances have been evaluated but are not included in the following DQA spreadsheet.
Note 2: Bias High: reported result may be lower, RLs are accepted as reported.
 Bias Low: reported result may be higher, RLs may be higher.

Location ID	Depth	Sample Number / Lab Number	Batch ID/QC	Dilution	Parameter	Parameter Type	Outlier (%)	Low Limit	High Limit	Bias	Footnotes
WT-MW-50	NA	1264979 (MC13777-1A)			No QC Issues						
EQUIPMENT	NA	1264889 (MC13777-8A)			No QC Issues						
WT-MW-59	NA	1264977 (MC13777-10A)			No QC Issues						
WT-MW-58	NA	1264980 (MC13777-6A)			No QC Issues						
WT-MW-50	NA	1264991 (MC13777-3A)			No QC Issues						

CT DEEP Reasonable Confidence Protocol - Data Quality Assessment Worksheet

Project: UTC PWEH Willow Pond GWM 2012
Commission #: 88UT230
Laboratory: Accutest
SDG: MC13829
Date Samples Collected: 9/7/2012



Note 1: Initial and continuing calibration QC non-conformances have been evaluated but are not included in the following DQA spreadsheet.
Note 2: Bias High: reported result may be lower, RLs are accepted as reported.
 Bias Low: reported result may be higher, RLs may be higher.
Note 3: Only samples with QC non-conformances are included below.

Location ID	Depth	Sample Number / Lab Number	Batch ID/QC	Dilution	Parameter	Parameter Type	Outlier (%)	Low Limit	High Limit	Bias	Footnotes
WT-MW-57	NA	1264982 (MC13829-1)	MSP2110-BS	1	Vinyl chloride	REC	65	70	130	Low	
WT-MW-57	NA	1264982 (MC13829-1)	MSP2110-BS	1	Methyl Tert Butyl Ether	REC	45	70	130	Low	
WT-MW-57	NA	1264982 (MC13829-1)	MSP2110-BS	1	2,2-Dichloropropane	REC	43	70	130	Low	
WT-MW-57	NA	1264982 (MC13829-1)	MSP2110-BS	1	Dichlorodifluoromethane	REC	47	70	130	Low	
WT-MW-48	NA	1264984 (MC13829-3)	MSP2110-BS	1	Vinyl chloride	REC	65	70	130	Low	
WT-MW-48	NA	1264984 (MC13829-3)	MSP2110-BS	1	Methyl Tert Butyl Ether	REC	45	70	130	Low	
WT-MW-48	NA	1264984 (MC13829-3)	MSP2110-BS	1	2,2-Dichloropropane	REC	43	70	130	Low	
WT-MW-48	NA	1264984 (MC13829-3)	MSP2110-BS	1	Dichlorodifluoromethane	REC	47	70	130	Low	
WT-MW-47	NA	1264985 (MC13829-6)	MSP2110-BS	1	Vinyl chloride	REC	65	70	130	Low	
WT-MW-47	NA	1264985 (MC13829-6)	MSP2110-BS	1	Methyl Tert Butyl Ether	REC	45	70	130	Low	
WT-MW-47	NA	1264985 (MC13829-6)	MSP2110-BS	1	2,2-Dichloropropane	REC	43	70	130	Low	
WT-MW-47	NA	1264985 (MC13829-6)	MSP2110-BS	1	Dichlorodifluoromethane	REC	47	70	130	Low	
WT-MW-46	NA	1264986 (MC13829-8)	MSP2110-BS	1	Vinyl chloride	REC	65	70	130	Low	
WT-MW-46	NA	1264986 (MC13829-8)	MSP2110-BS	1	Methyl Tert Butyl Ether	REC	45	70	130	Low	
WT-MW-46	NA	1264986 (MC13829-8)	MSP2110-BS	1	2,2-Dichloropropane	REC	43	70	130	Low	
WT-MW-46	NA	1264986 (MC13829-8)	MSP2110-BS	1	Dichlorodifluoromethane	REC	47	70	130	Low	
TRIP BLANK	NA	1264988 (MC13829-5)	MSP2110-BS	1	Vinyl chloride	REC	65	70	130	Low	
TRIP BLANK	NA	1264988 (MC13829-5)	MSP2110-BS	1	Methyl Tert Butyl Ether	REC	45	70	130	Low	
TRIP BLANK	NA	1264988 (MC13829-5)	MSP2110-BS	1	2,2-Dichloropropane	REC	43	70	130	Low	
TRIP BLANK	NA	1264988 (MC13829-5)	MSP2110-BS	1	Dichlorodifluoromethane	REC	47	70	130	Low	

CT DEEP Reasonable Confidence Protocol - Data Quality Assessment Worksheet

Project: UTC PWEH Willow Pond GWM 2012
Commission #: 88UT230
Laboratory: Accutest
SDG: MC14490
Date Samples Collected: 9/27/2012



Note 1: Initial and continuing calibration QC non-conformances have been evaluated but are not included in the following DQA spreadsheet.

Note 2: Bias High: reported result may be lower, RLs are accepted as reported.

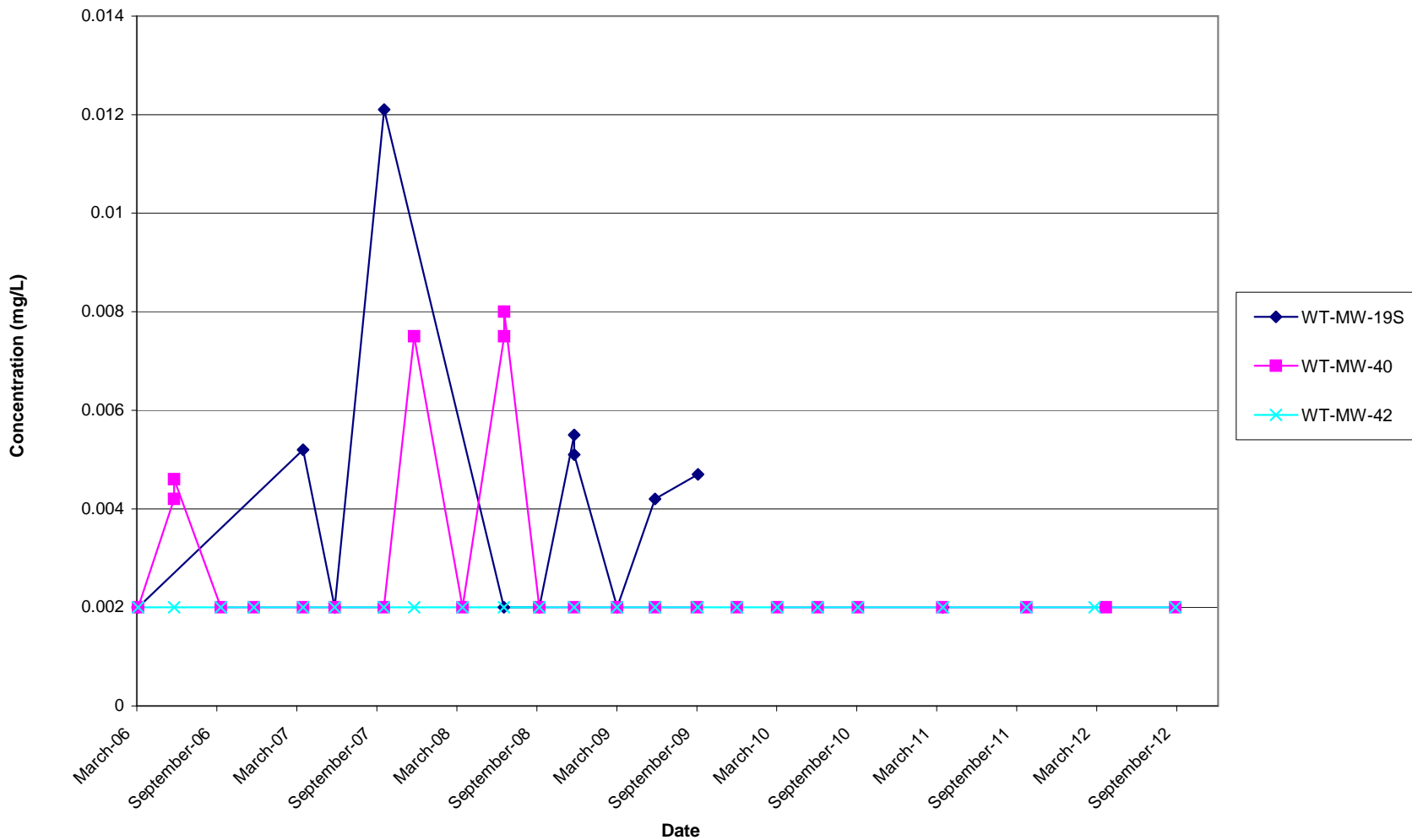
Bias Low: reported result may be higher, RLs may be higher.

Location ID	Depth	Sample Number / Lab Number	Batch ID/QC	Dilution	Parameter	Parameter Type	Outlier (%)	Low Limit	High Limit	Bias	Footnotes
WT-MW-42	NA	1250517 (MC14490-1)		1	Dichlorodifluoromethane	REC	137	70	130	High	
WT-MW-42	NA	1250517 (MC14490-1)		1	Methyl Tert Butyl Ether	REC	42	70	130	Low	
WT-MW-42	NA	1250517uf (MC14490-2)		1	No QC Issues						
Performance	NA	1266371 (MC14490-3)		1	Chloromethane	REC	131	70	130	High	
Performance	NA	1266371 (MC14490-3)		1	Methyl Tert Butyl Ether	REC	52	70	130	Low	
Performance	NA	1266372uf (MC14490-4)		1	No QC Issues						
Performance	NA	1266373 (MC14490-5)		1	No QC Issues						
Performance	NA	1266374 (MC14490-6)		1	No QC Issues						

Appendix D

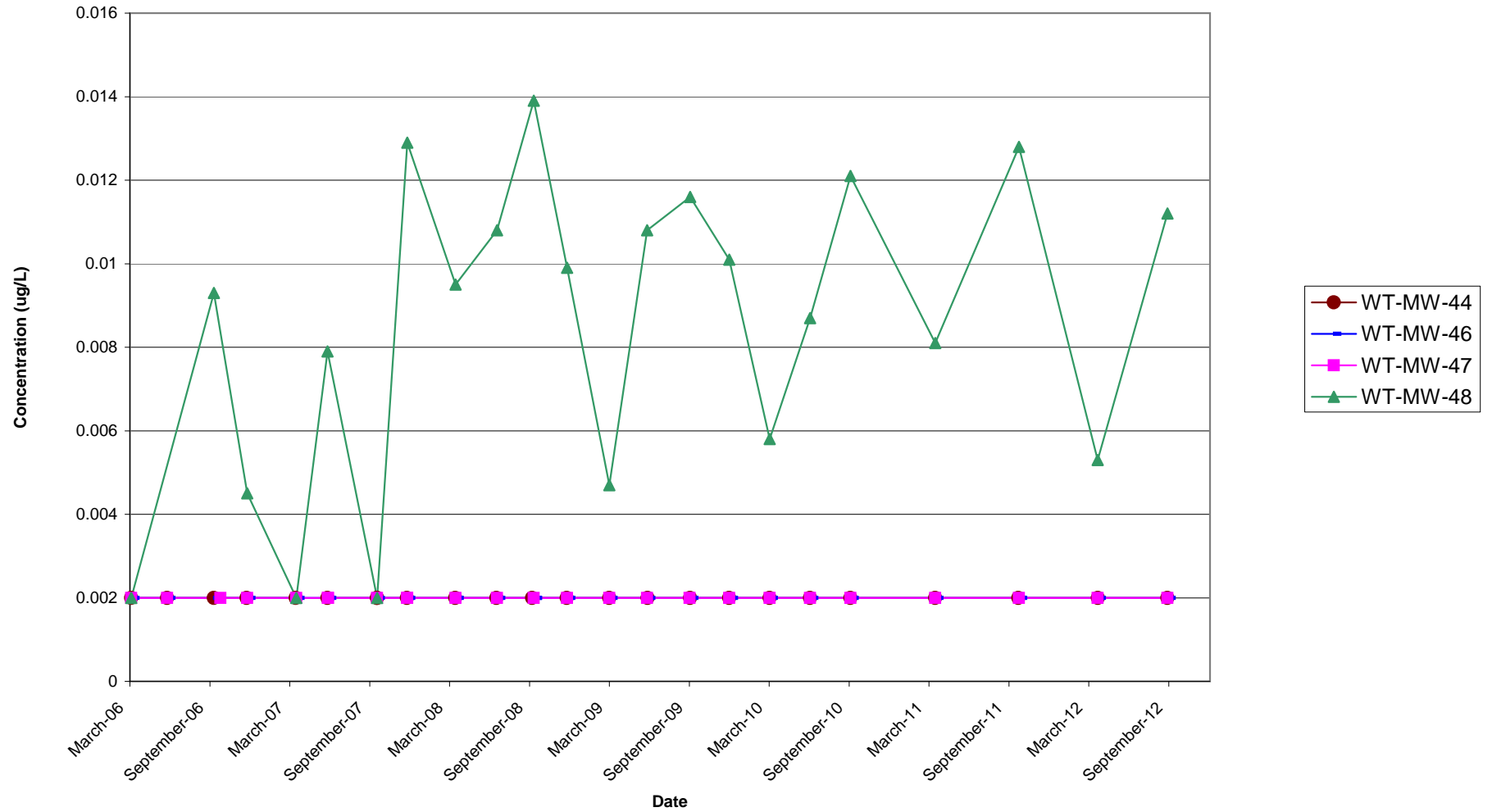
Select Constituent Concentration Graphs

Arsenic (unfiltered)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report



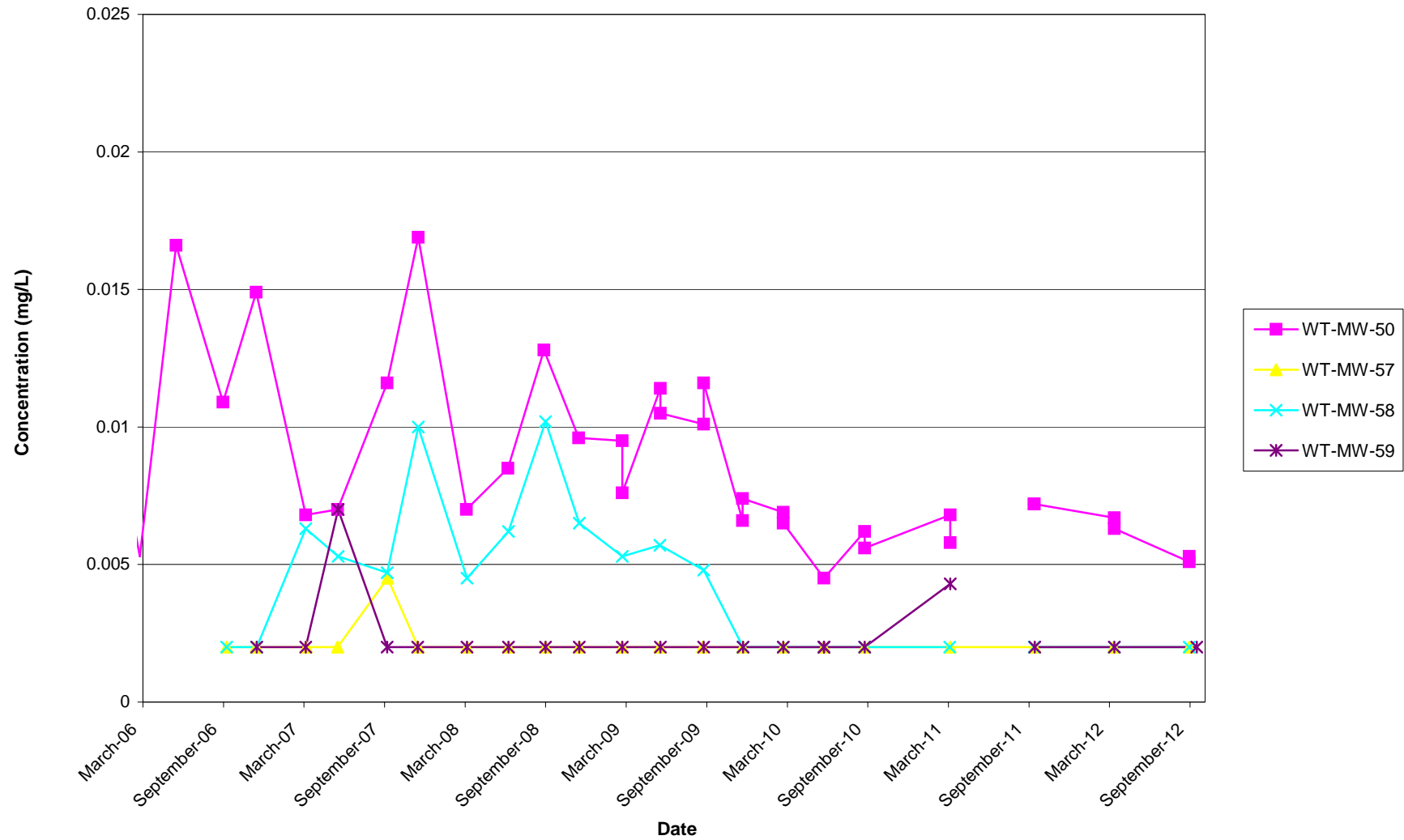
Note: Non-detects shown at one half the Reporting Limit

Arsenic (unfiltered)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report



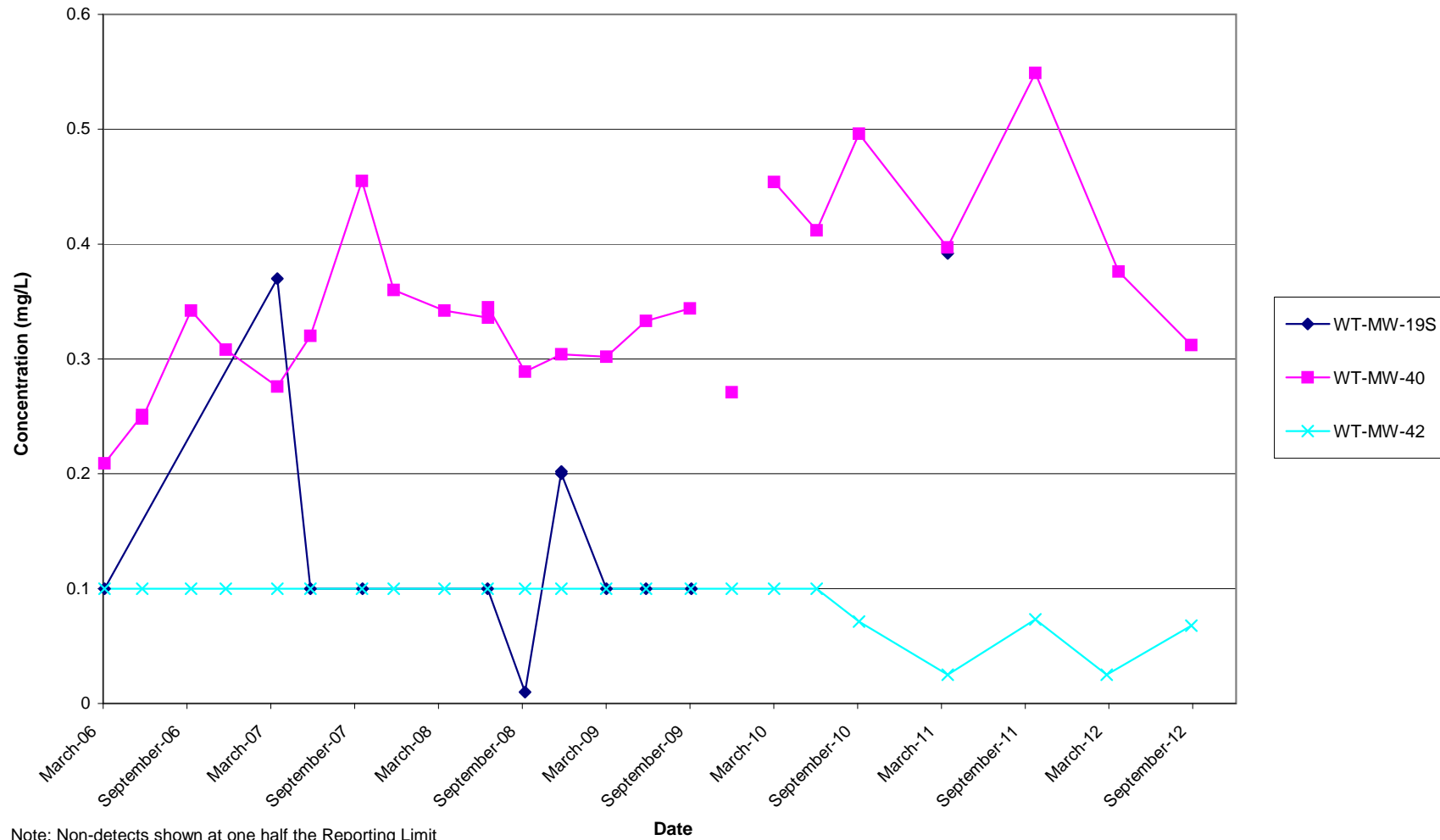
Note: Non-detects shown at one half the Reporting Limit

Arsenic (unfiltered)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

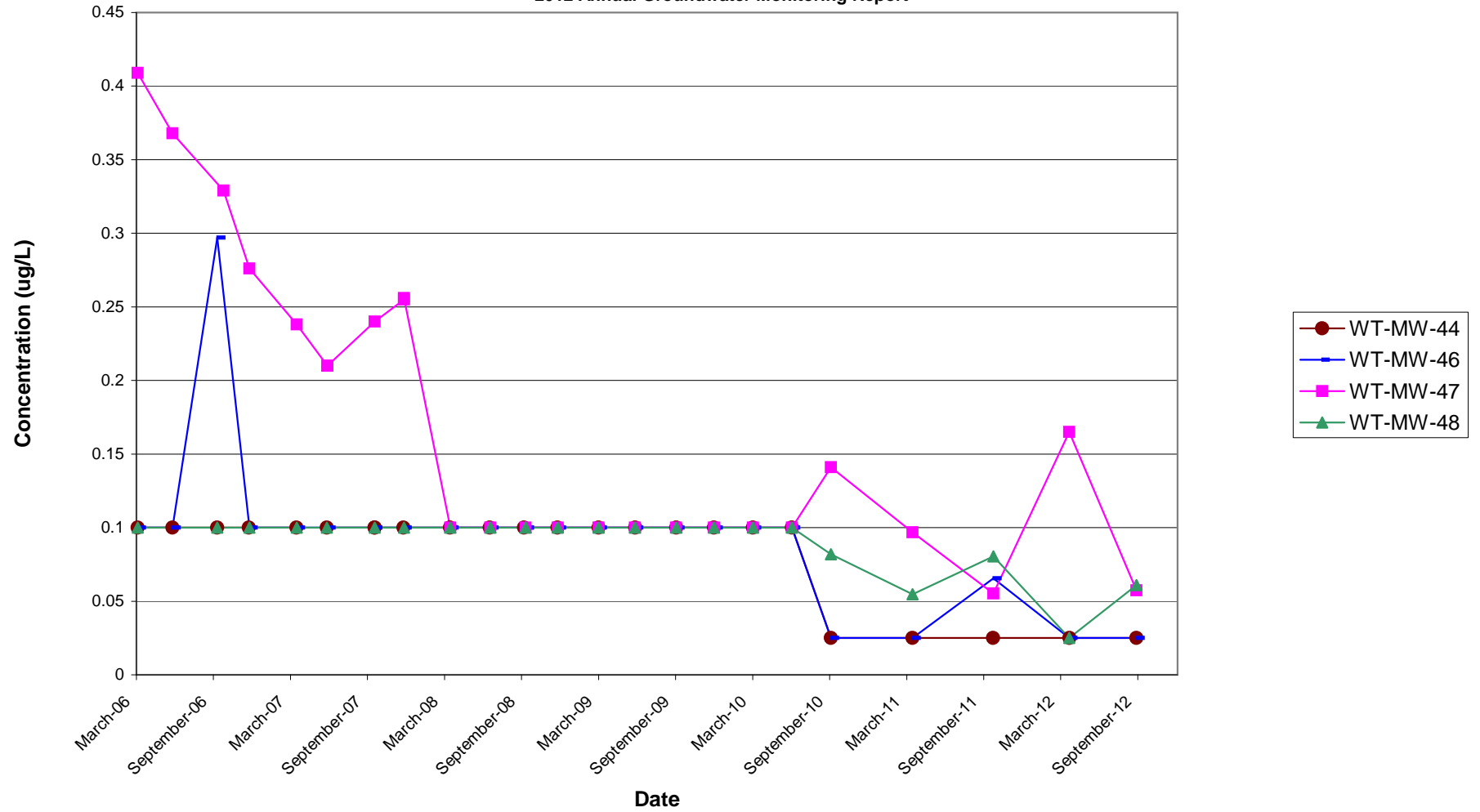


Note: Non-detects shown at one half the Reporting Limit

Barium (unfiltered)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

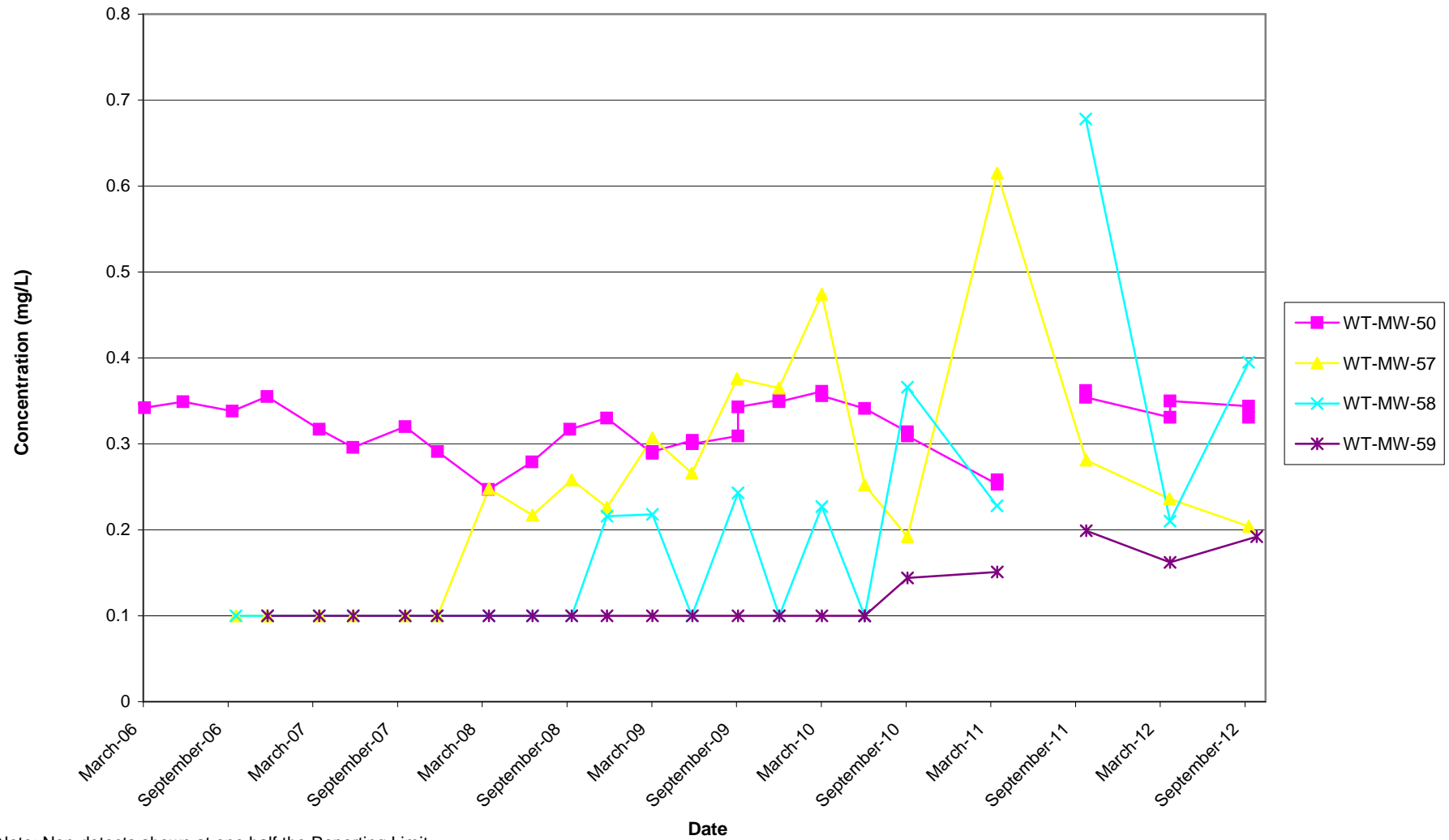


Barium (unfiltered)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report



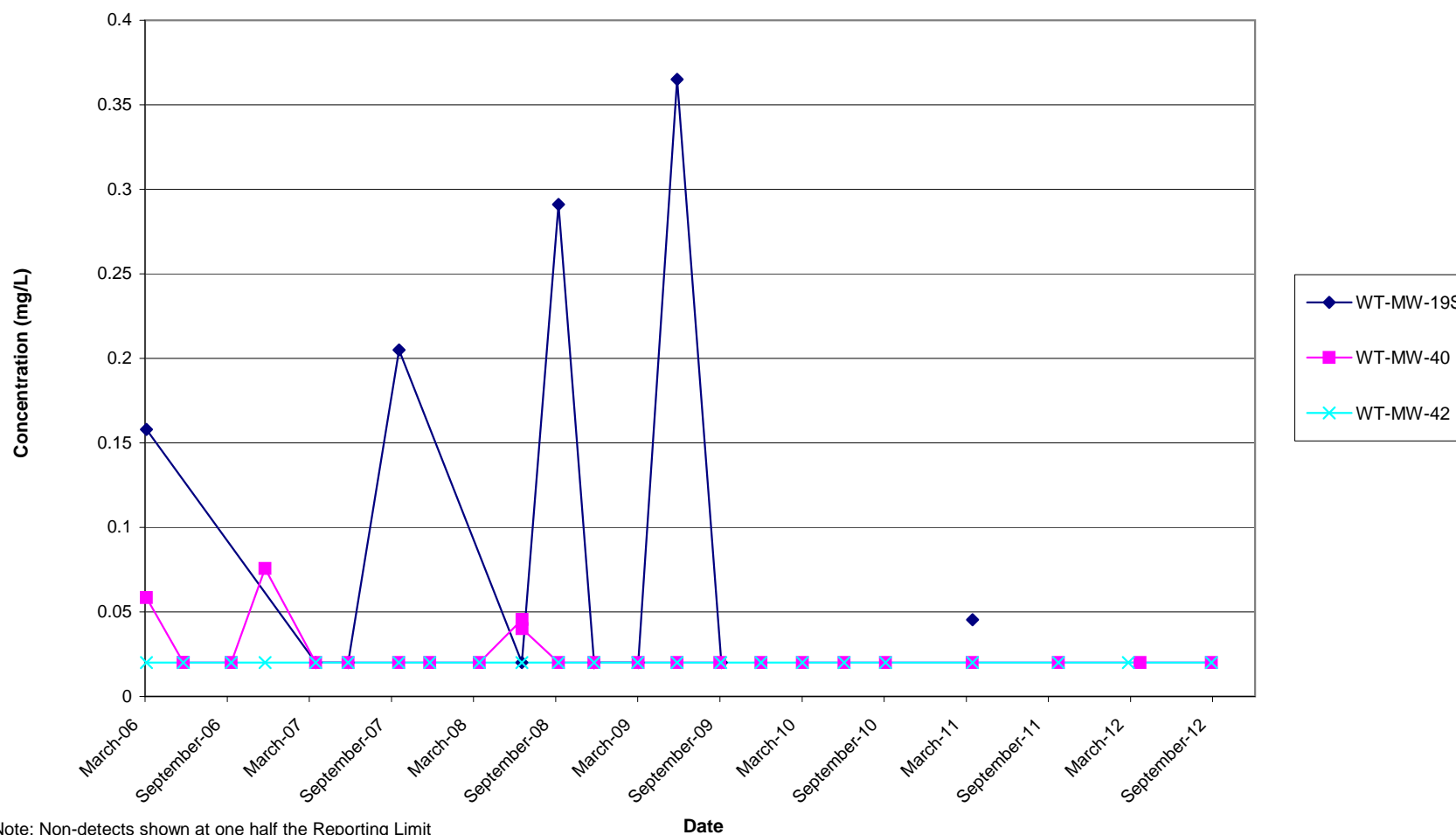
Note: Non-detects shown at one half the Reporting Limit

Barium (unfiltered)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

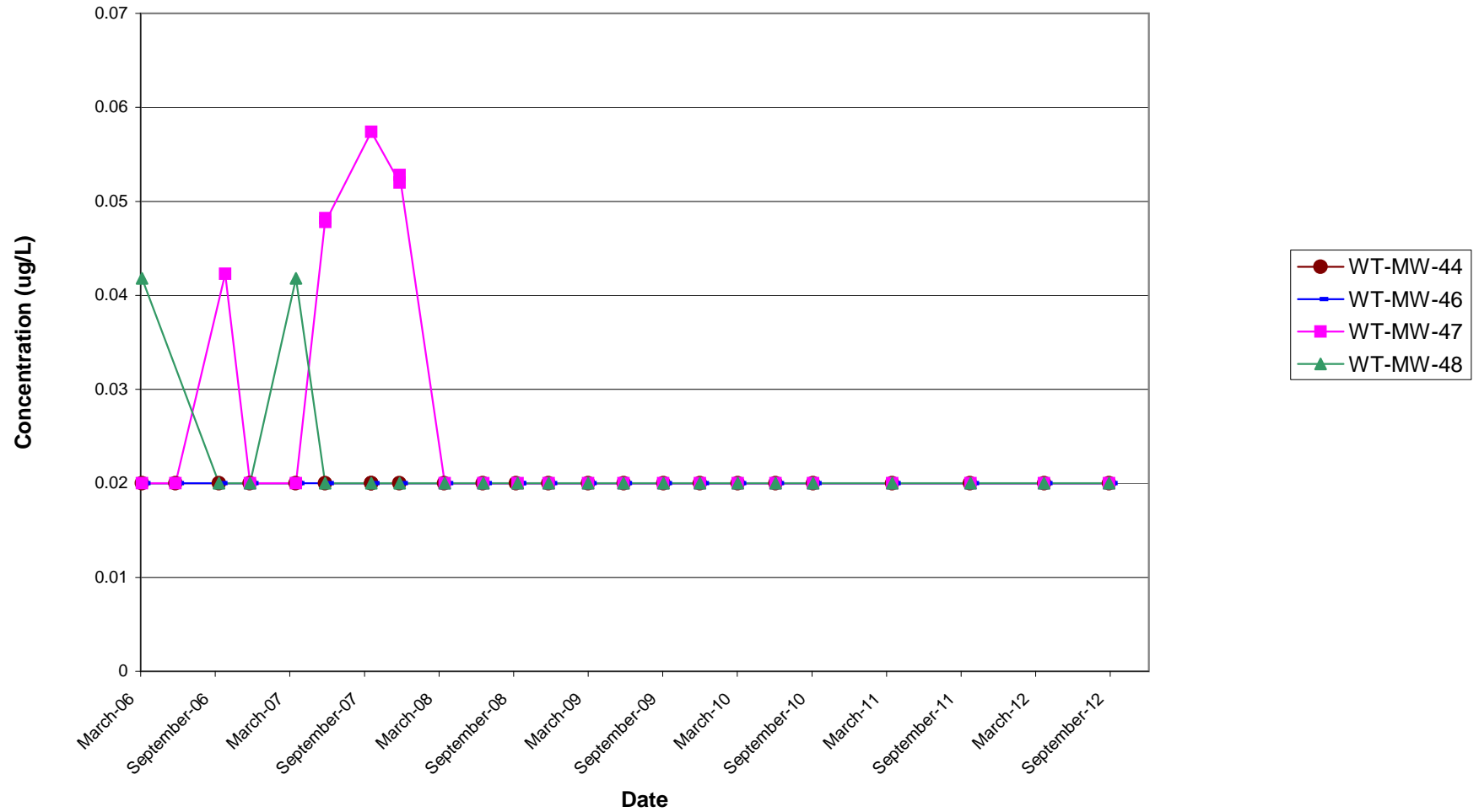


Note: Non-detects shown at one half the Reporting Limit

Nickel (unfiltered)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

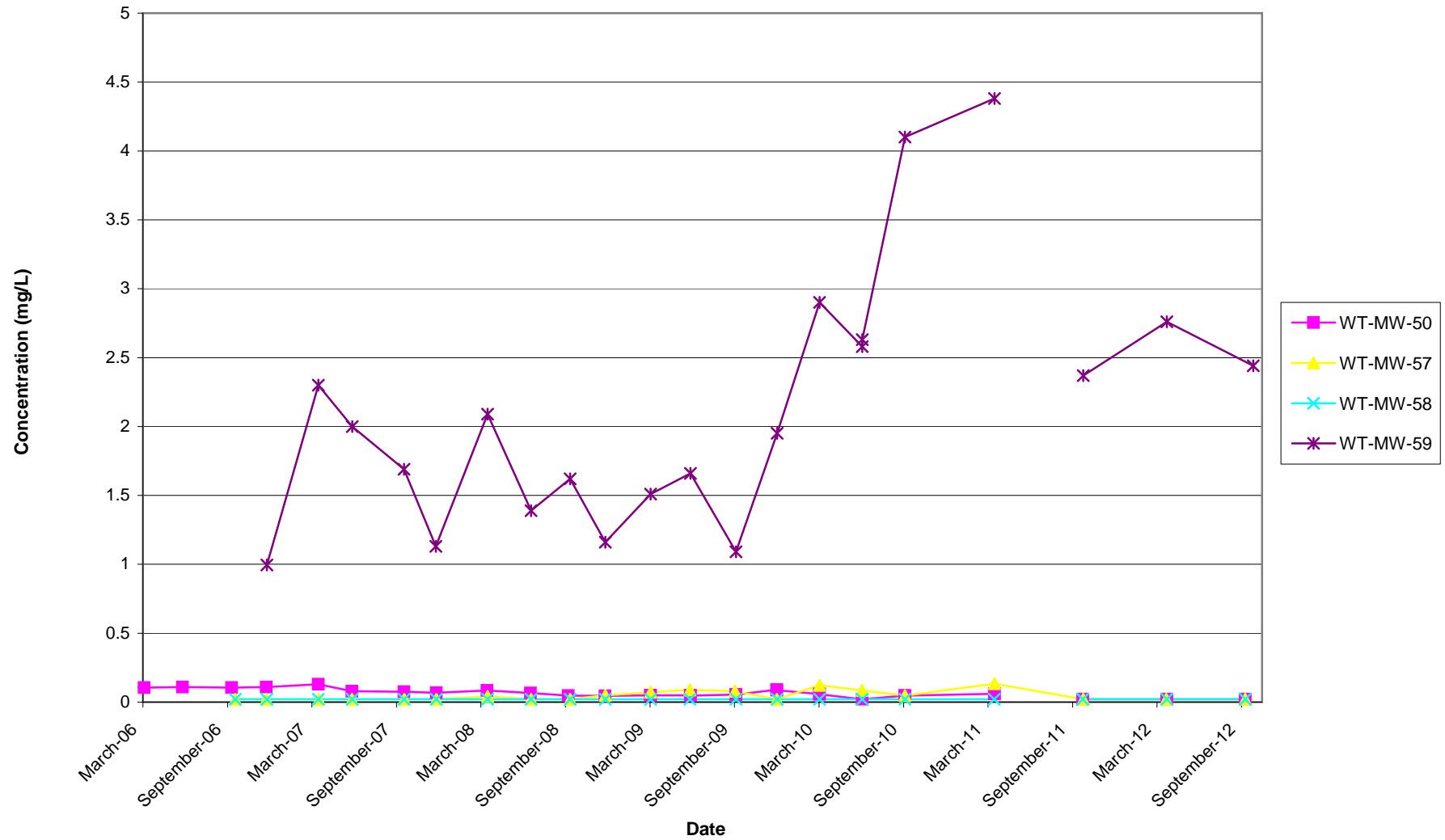


Nickel (unfiltered)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

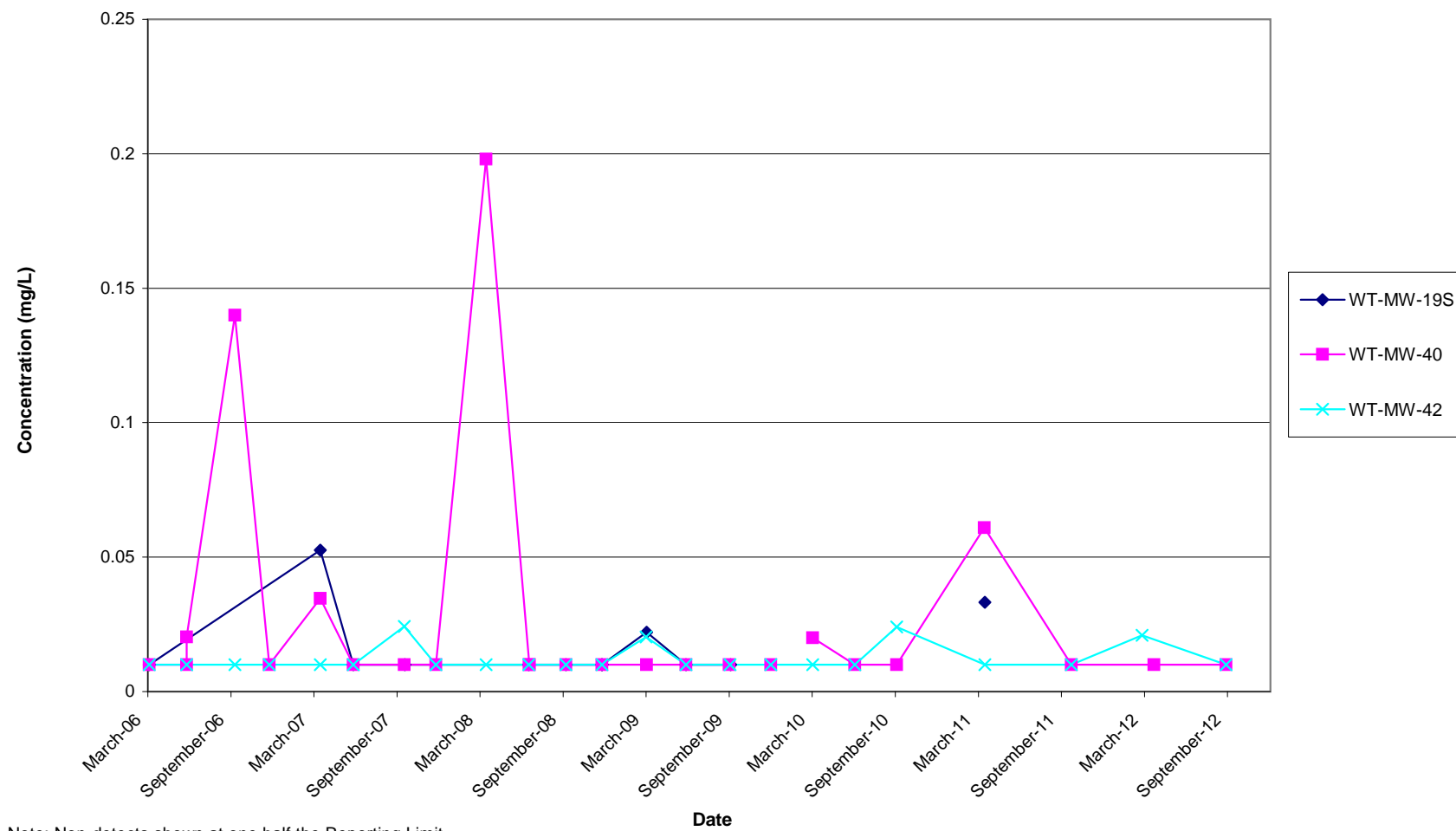


Note: Non-detects shown at one half the Reporting Limit

Nickel (unfiltered)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

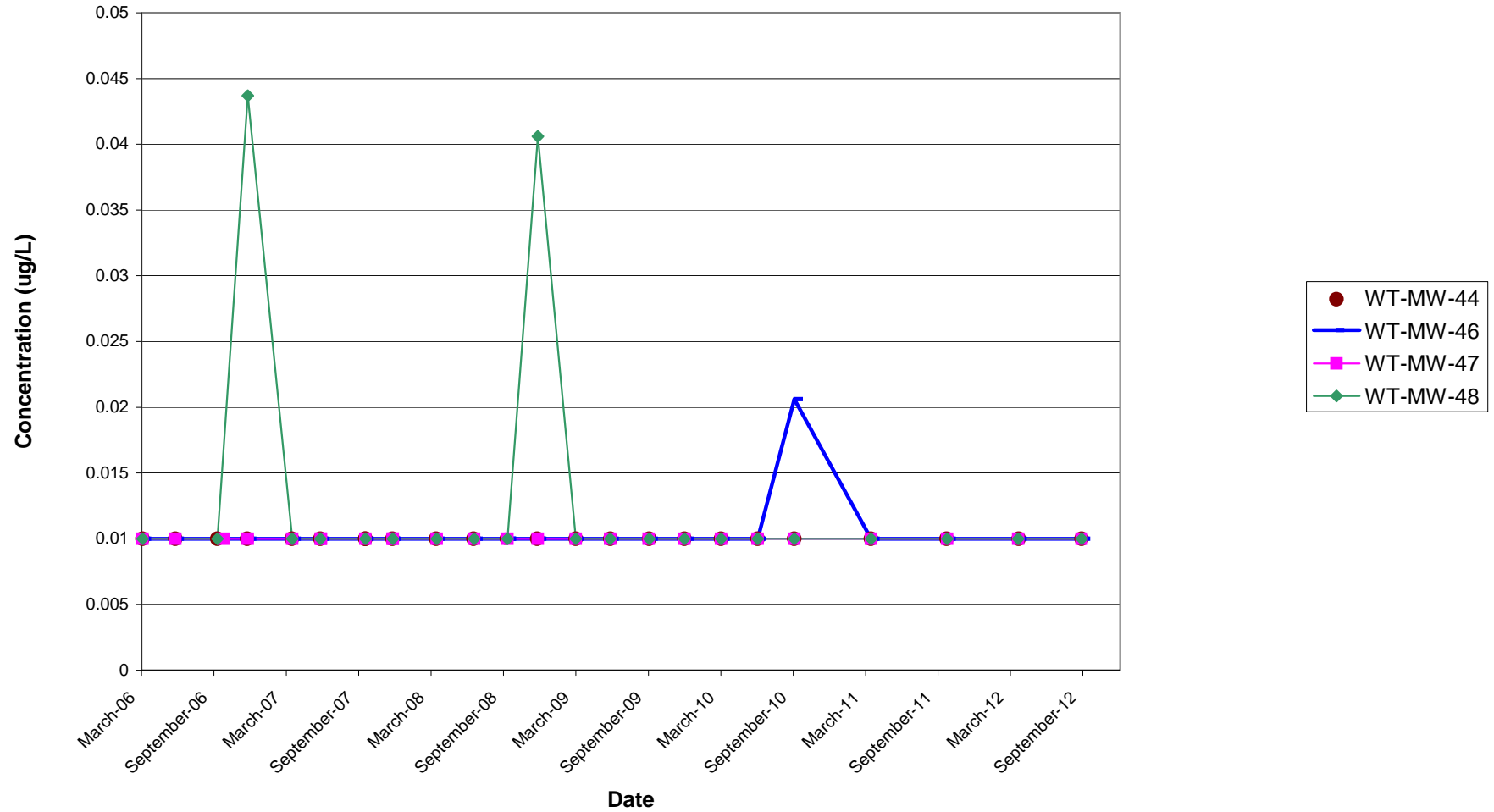


Zinc (unfiltered)
Pratt & Whitney, East Harford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report



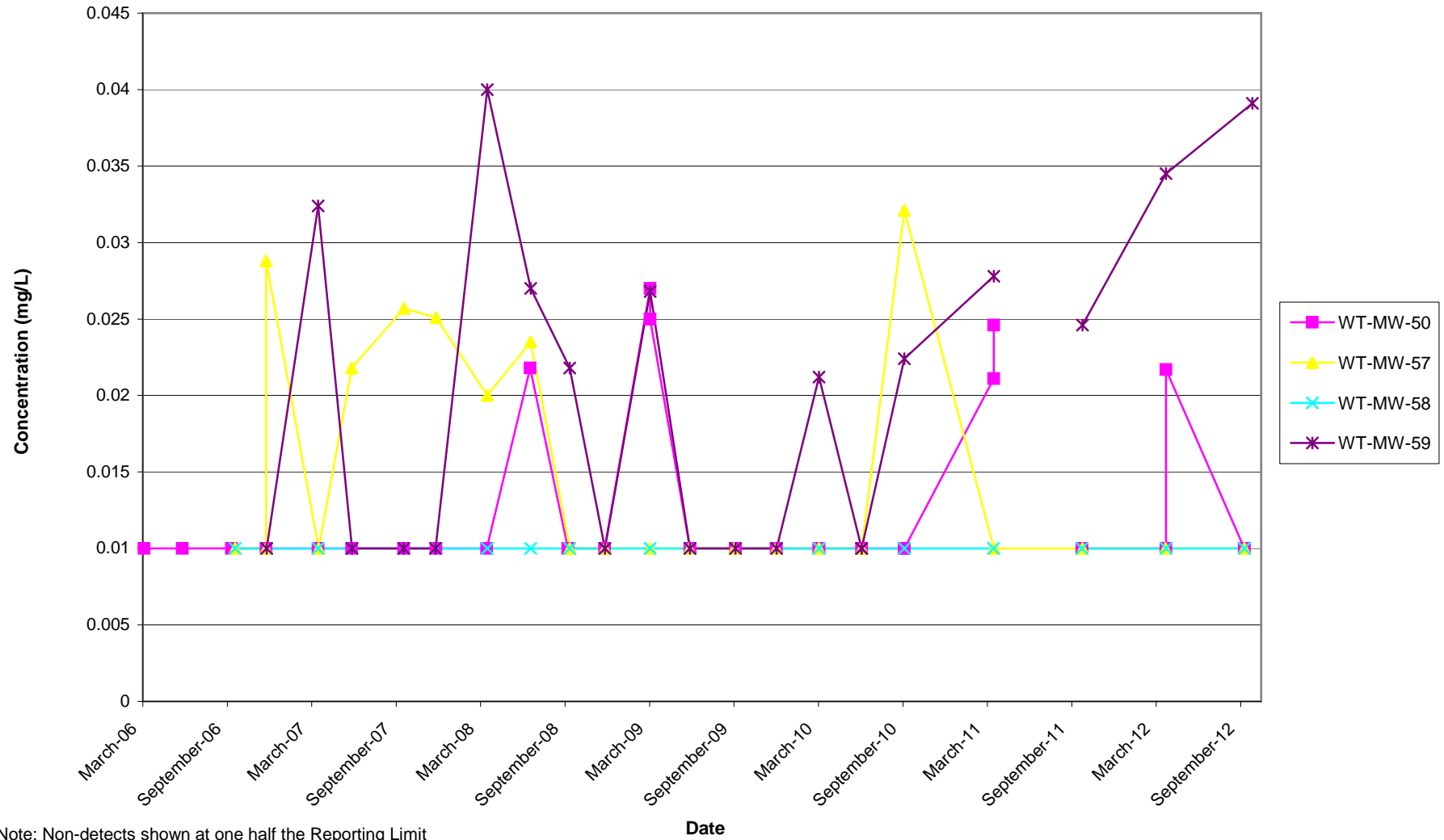
Note: Non-detects shown at one half the Reporting Limit

Zinc (unfiltered)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

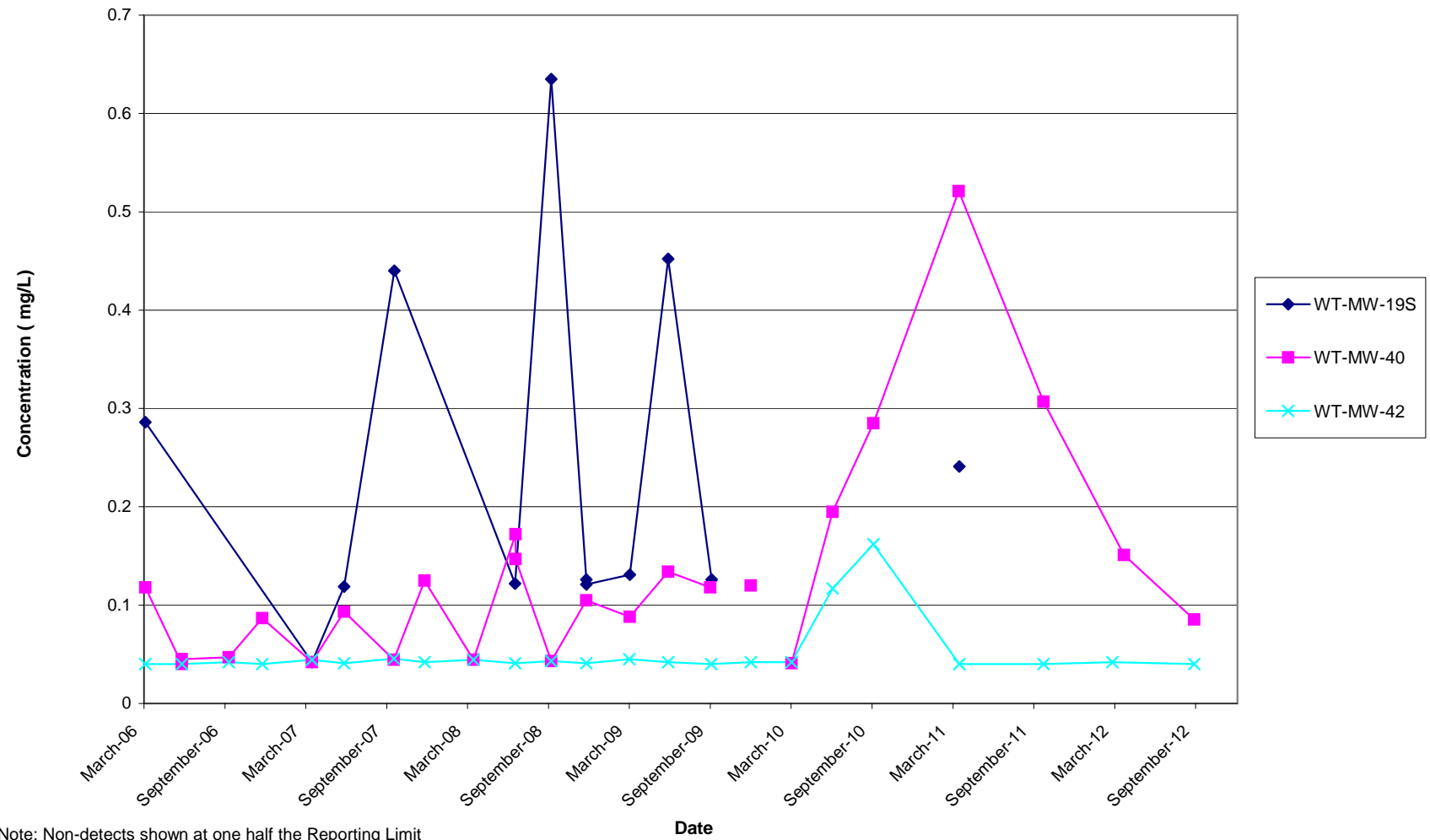


Note: Non-detects shown at one half the Reporting Limit

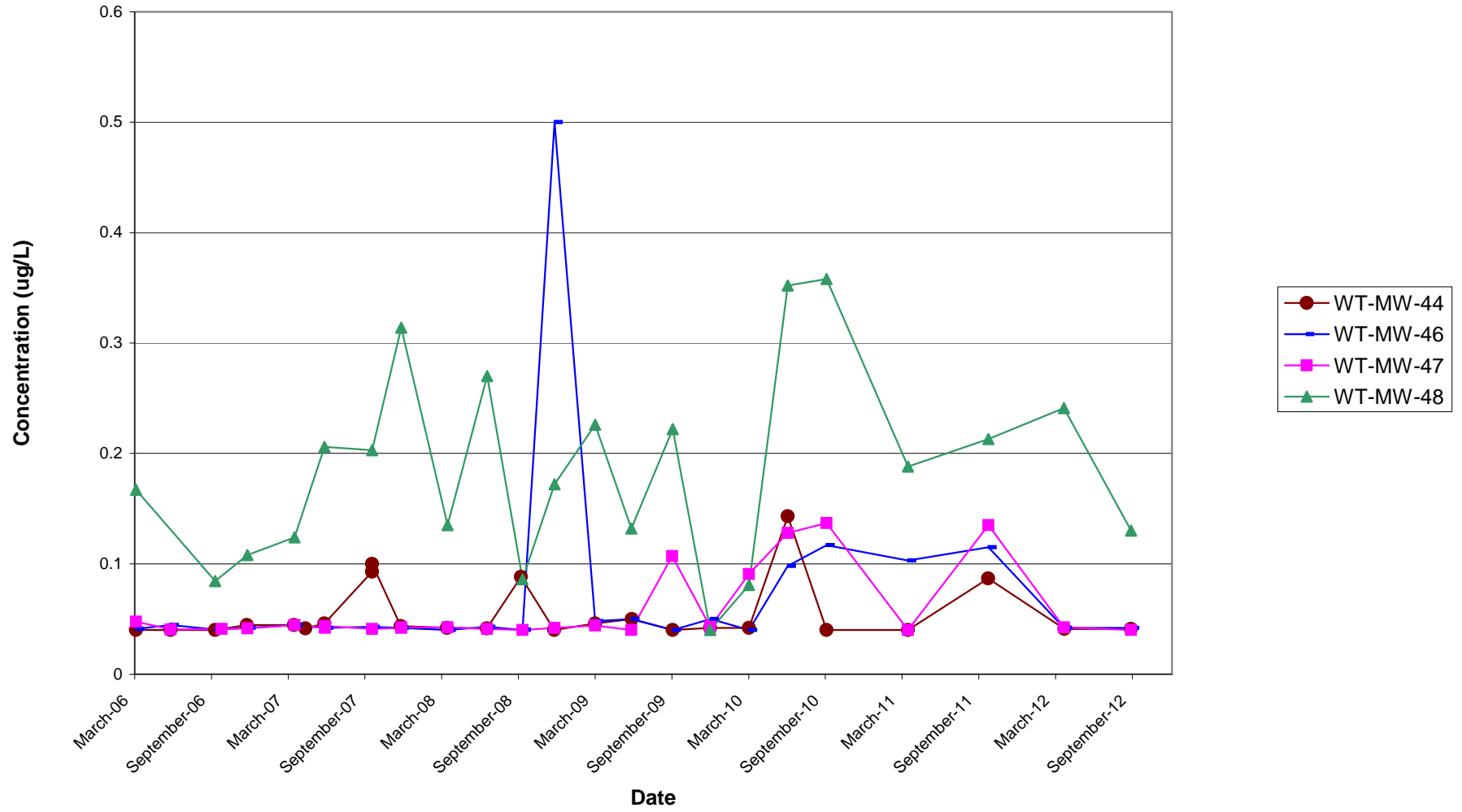
Zinc (unfiltered)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report



Total Petroleum Hydrocarbons (ETPH)
Pratt & Whitney, East Harford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

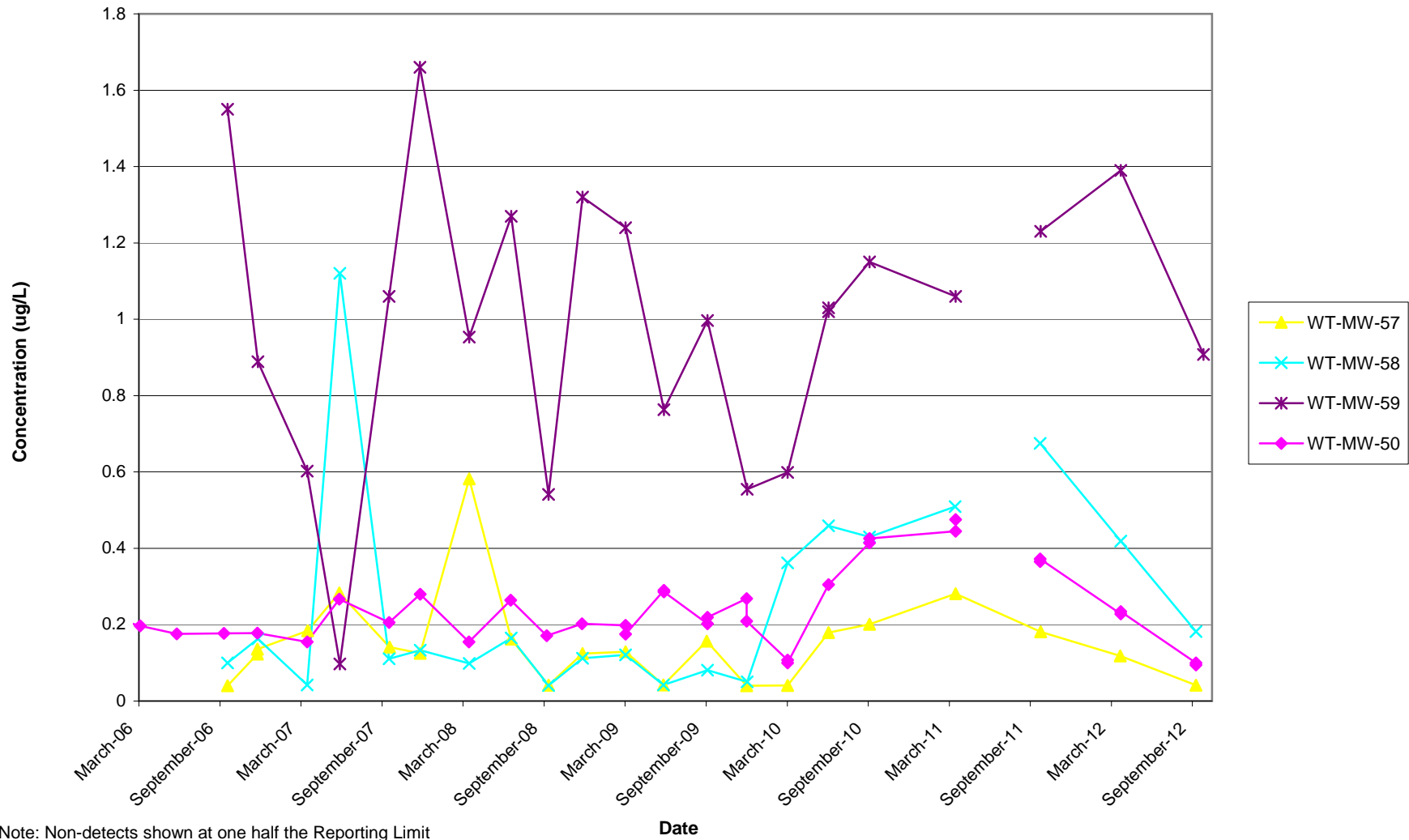


Total Petroleum Hydrocarbons (ETPH)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

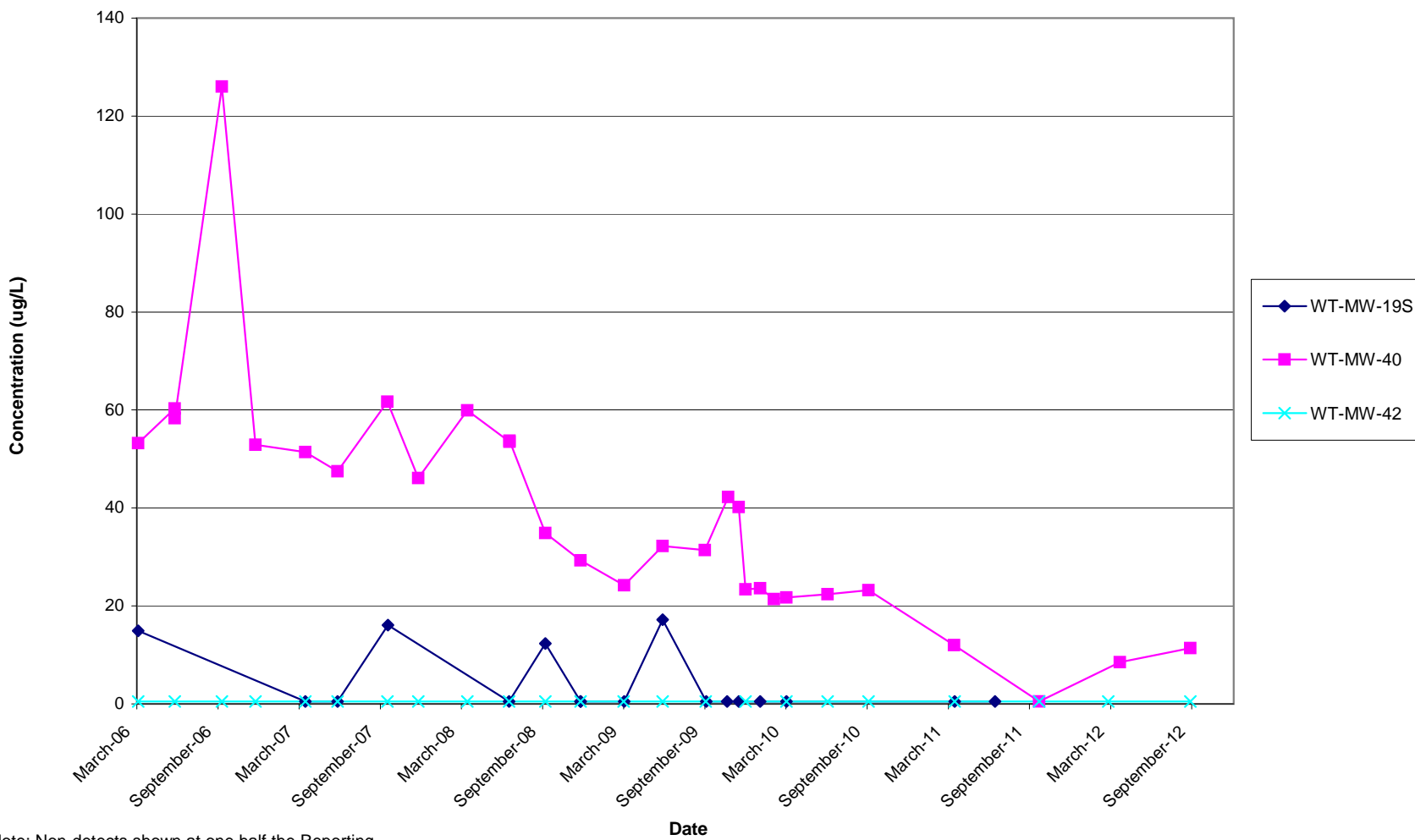


Note: Non-detects shown at one half the Reporting Limit

Total Petroleum Hydrocarbons (ETPH)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

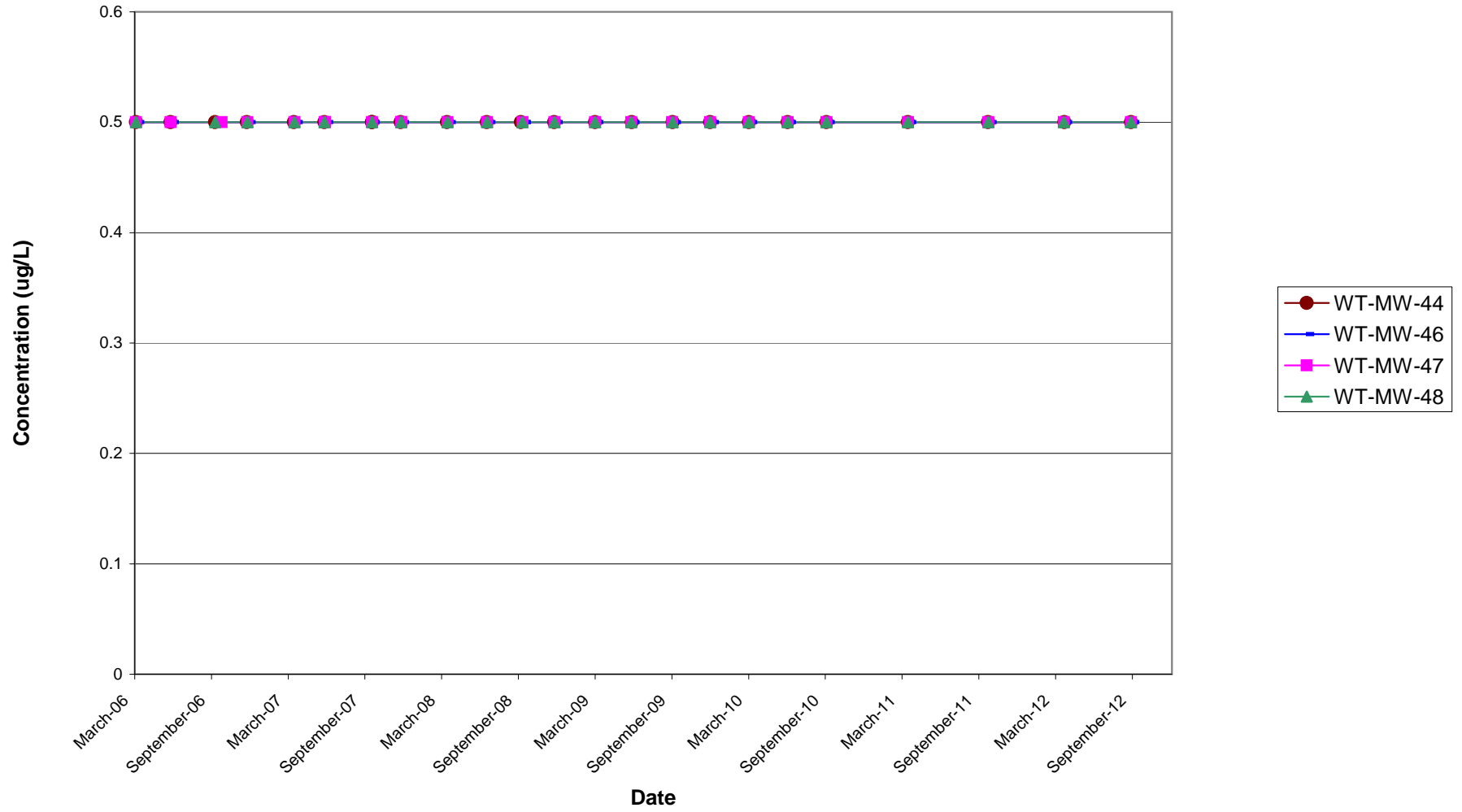


1,1-Dichloroethane (1,1 DCA)
Pratt & Whitney, East Harford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report



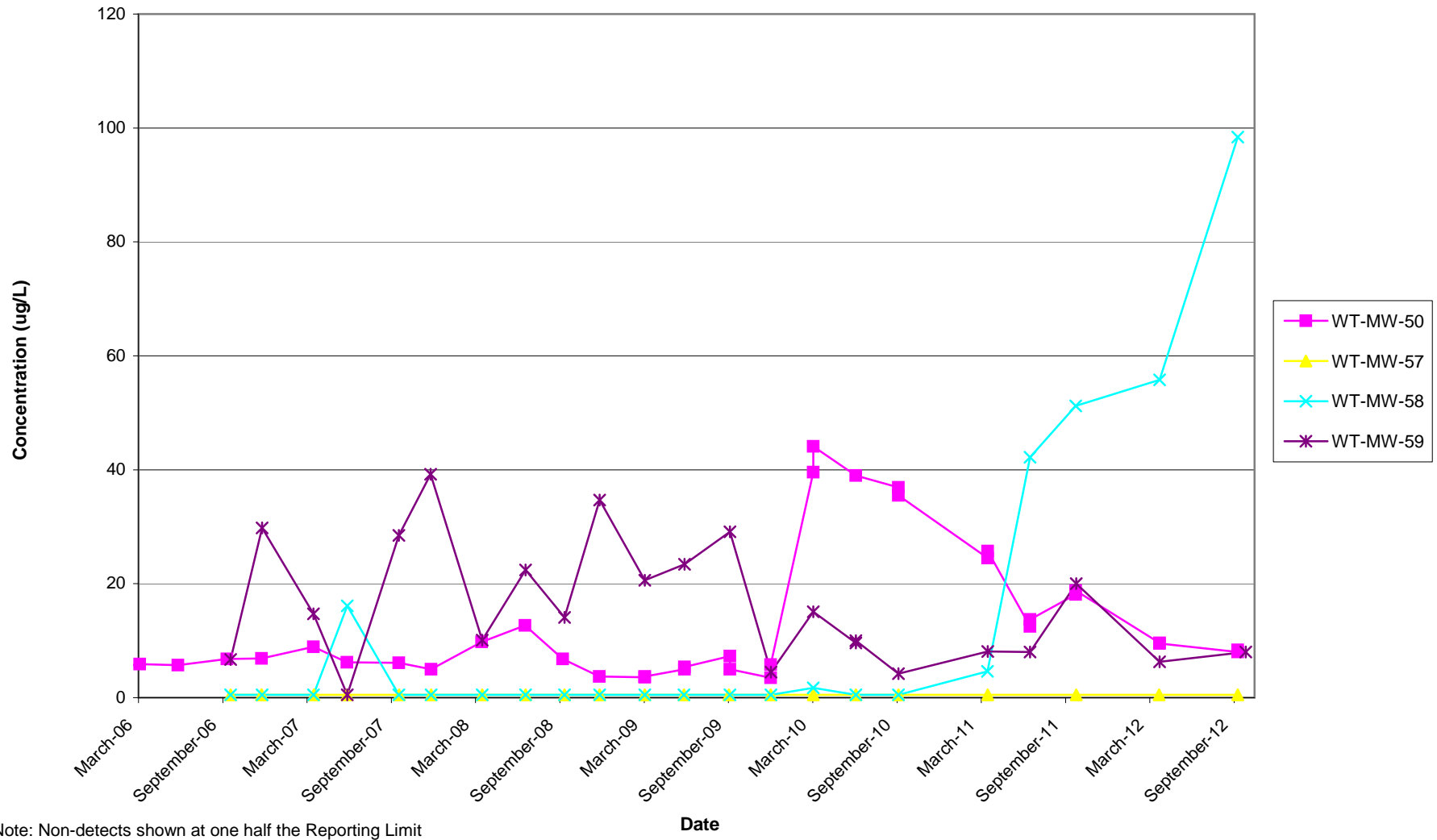
Note: Non-detects shown at one half the Reporting Limit

1,1-Dichloroethane (1,1 DCA)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

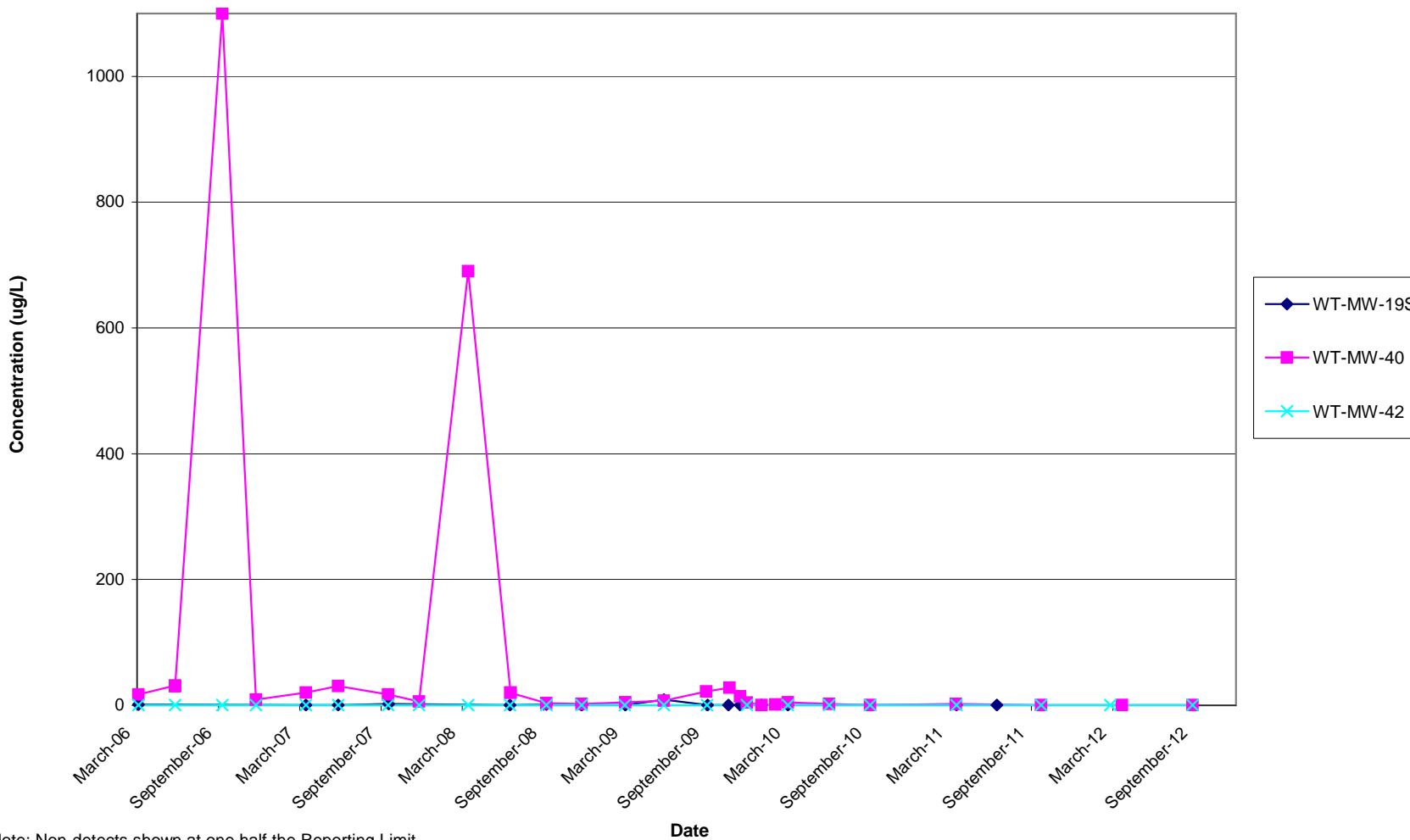


Note: Non-detects shown at one half the Reporting Limit

1,1-Dichloroethane (1,1 DCA)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

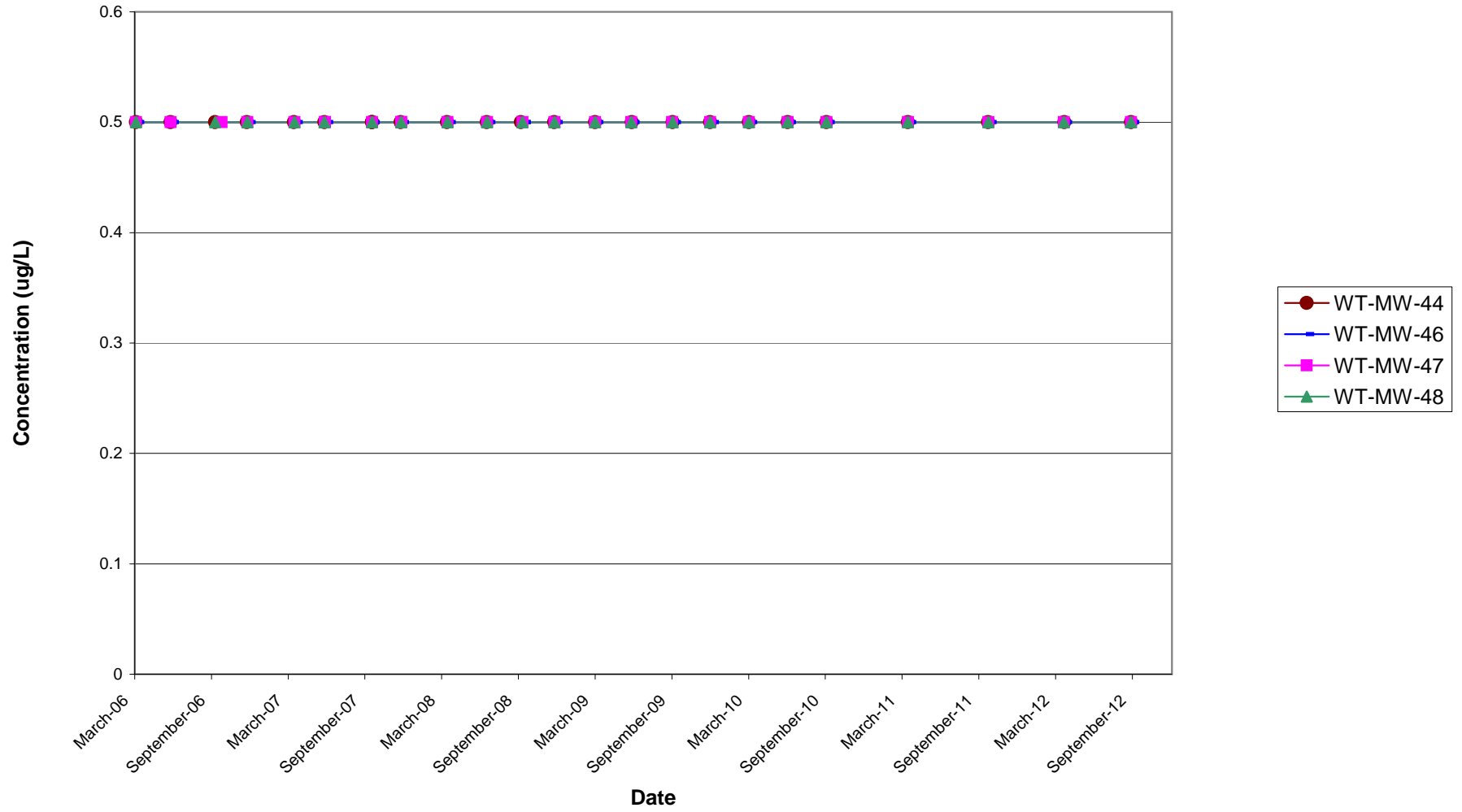


1,1-Dichloroethylene (1,1 DCE)
Pratt & Whitney, East Harford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report



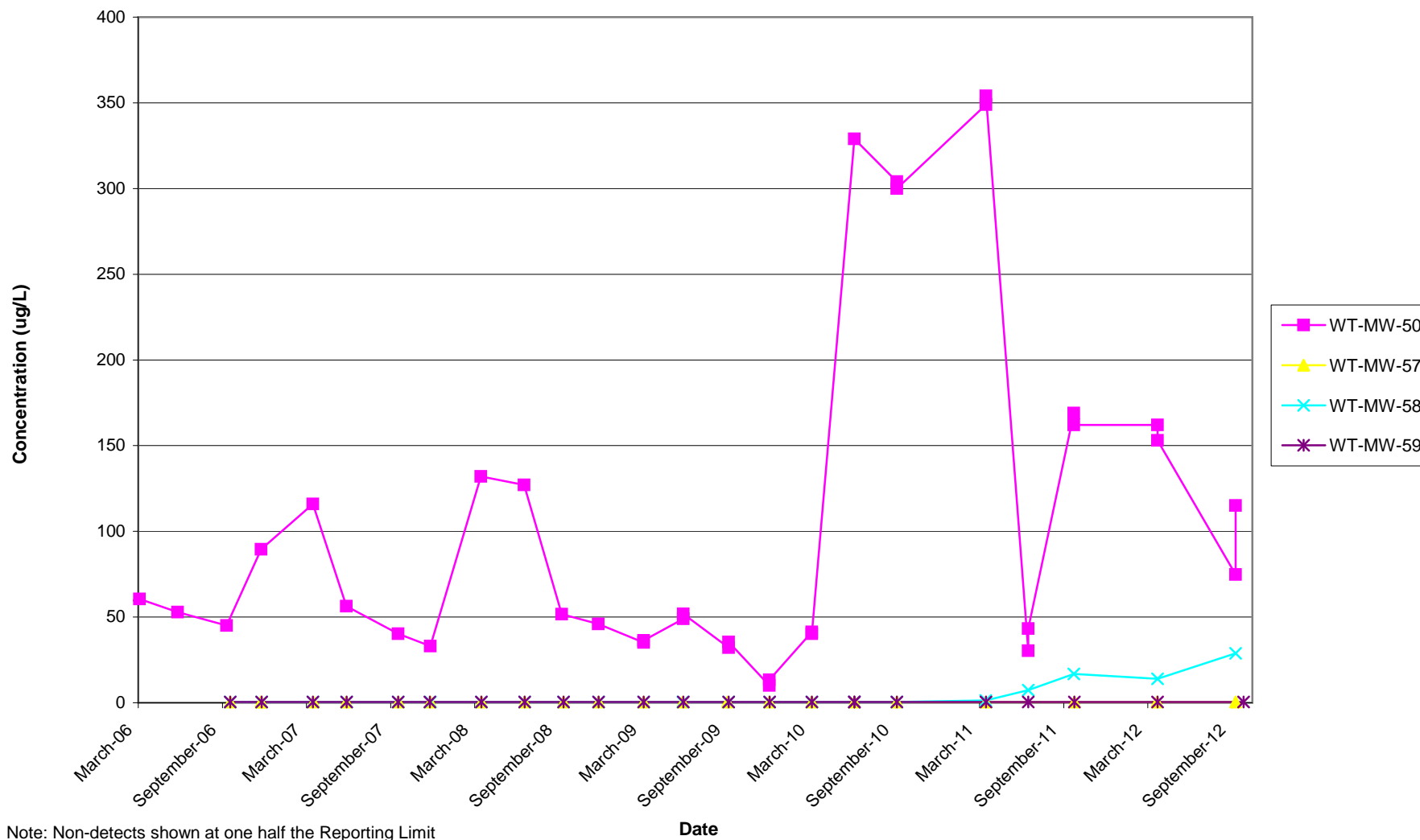
Note: Non-detects shown at one half the Reporting Limit

1,1-Dichloroethylene (1,1 DCE)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

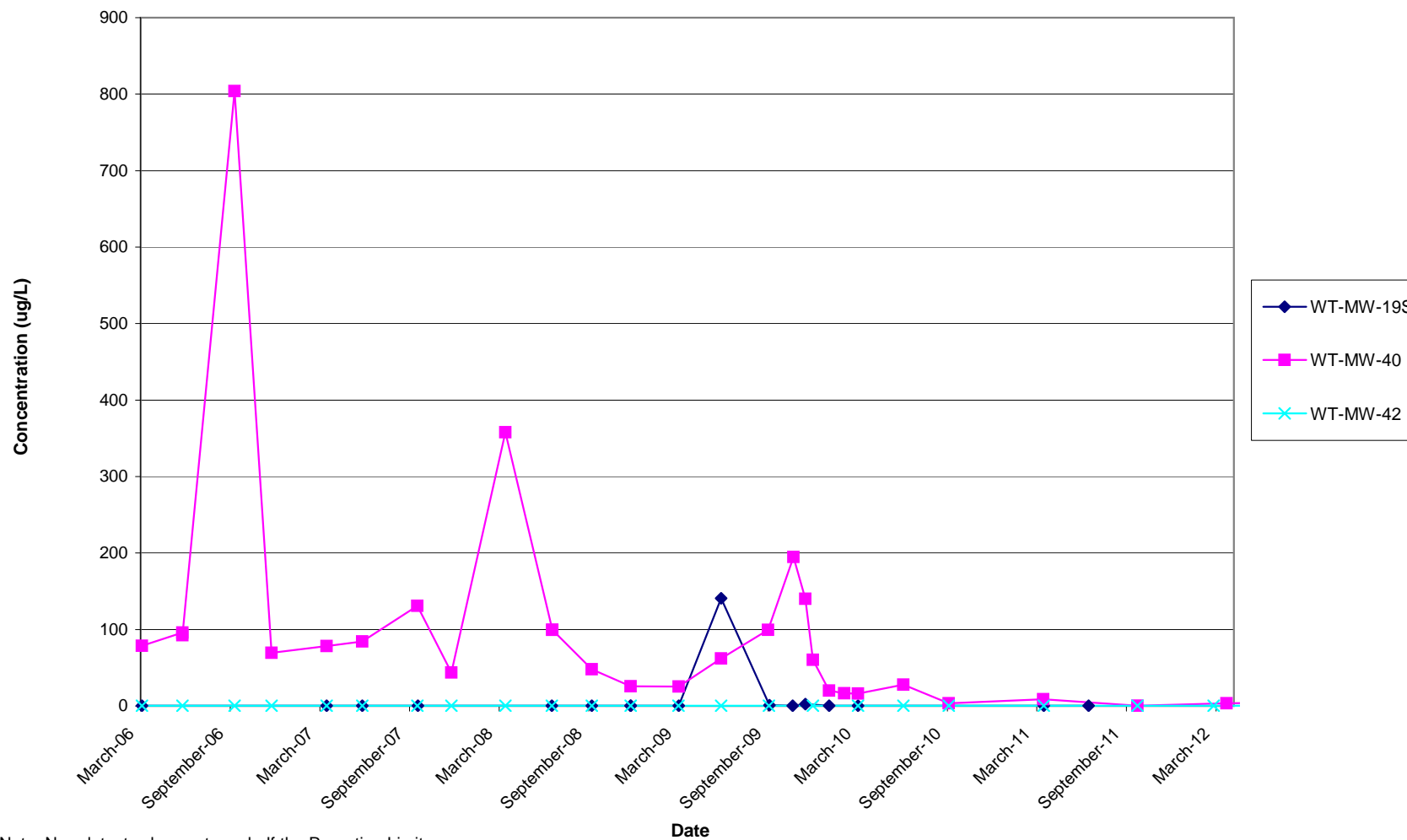


Note: Non-detects shown at one half the Reporting Limit

1,1-Dichloroethylene (1,1 DCE)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

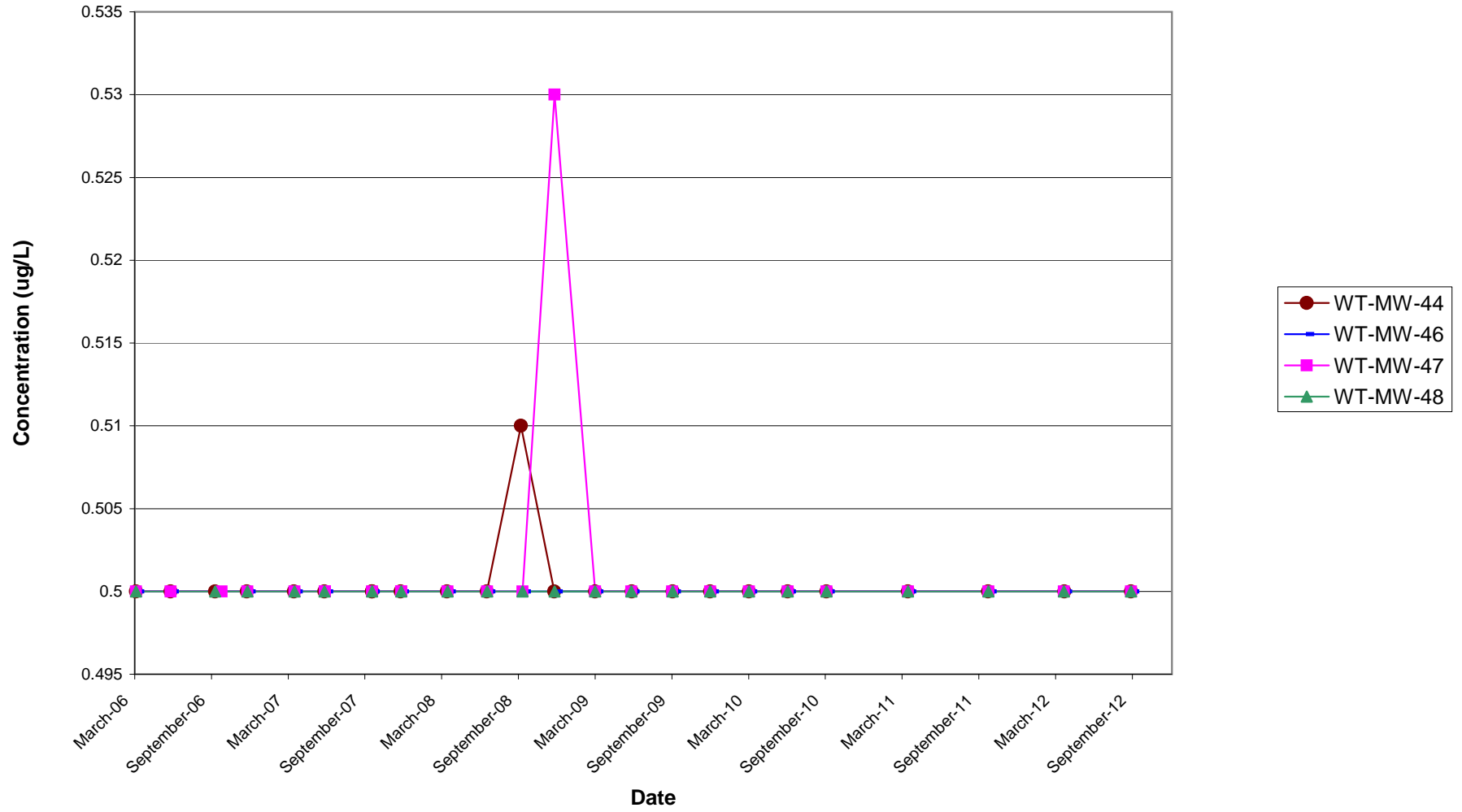


cis-1,2-Dichloroethylene (cis-1,2-DCE)
Pratt & Whitney, East Harford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report



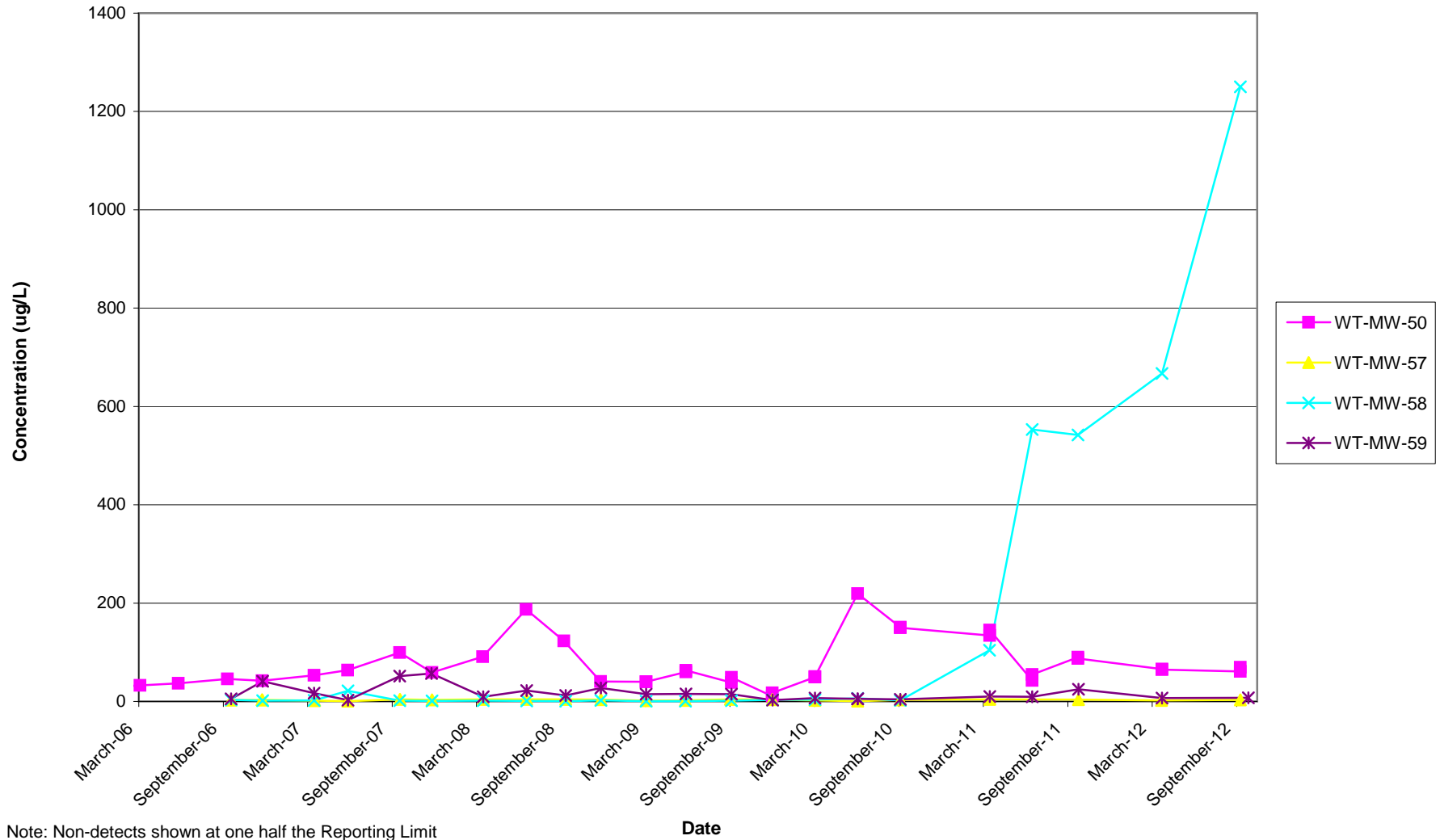
Note: Non-detects shown at one half the Reporting Limit

cis-1,2-Dichloroethylene (cis-1,2-DCE)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

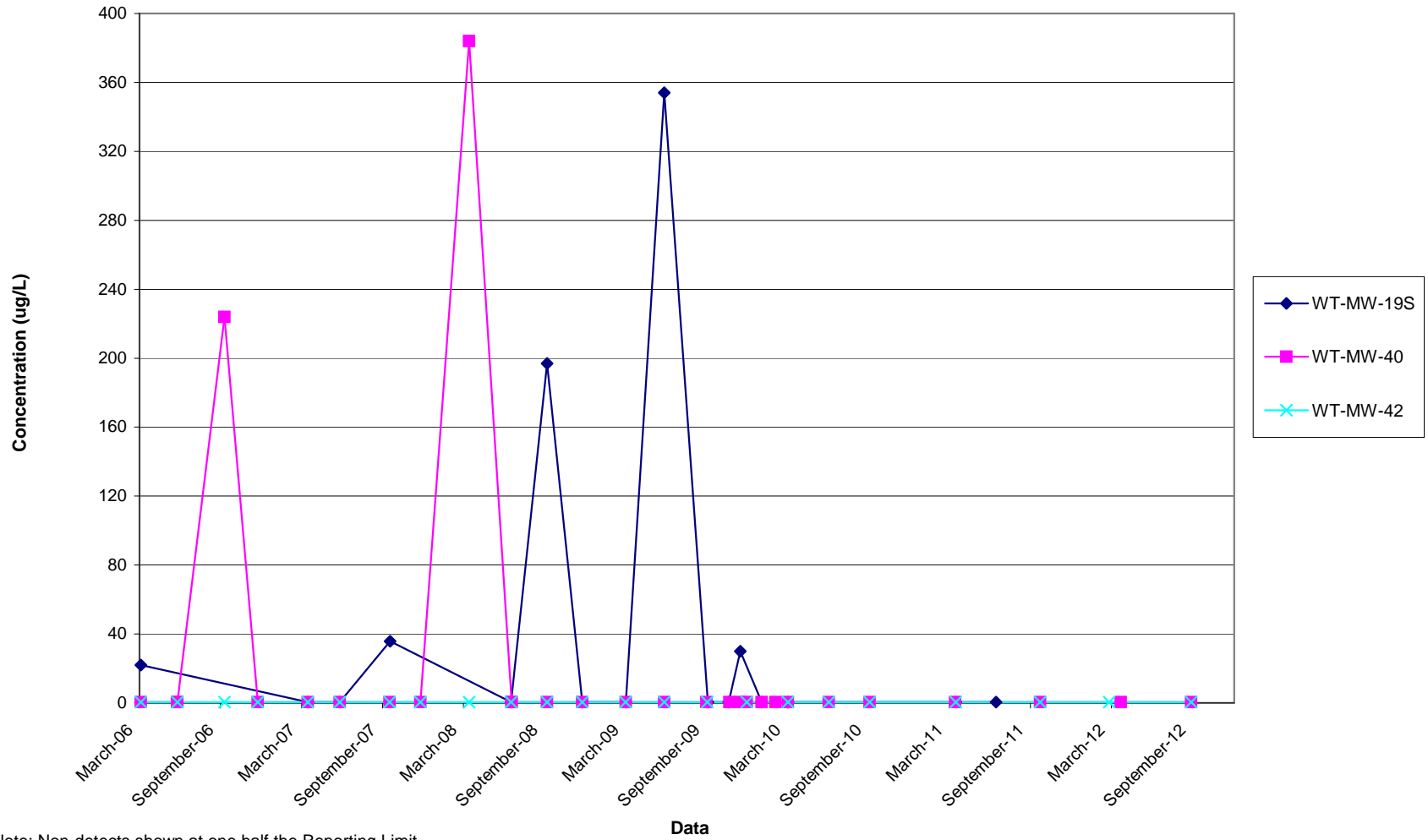


Note: Non-detects shown at one half the Reporting Limit

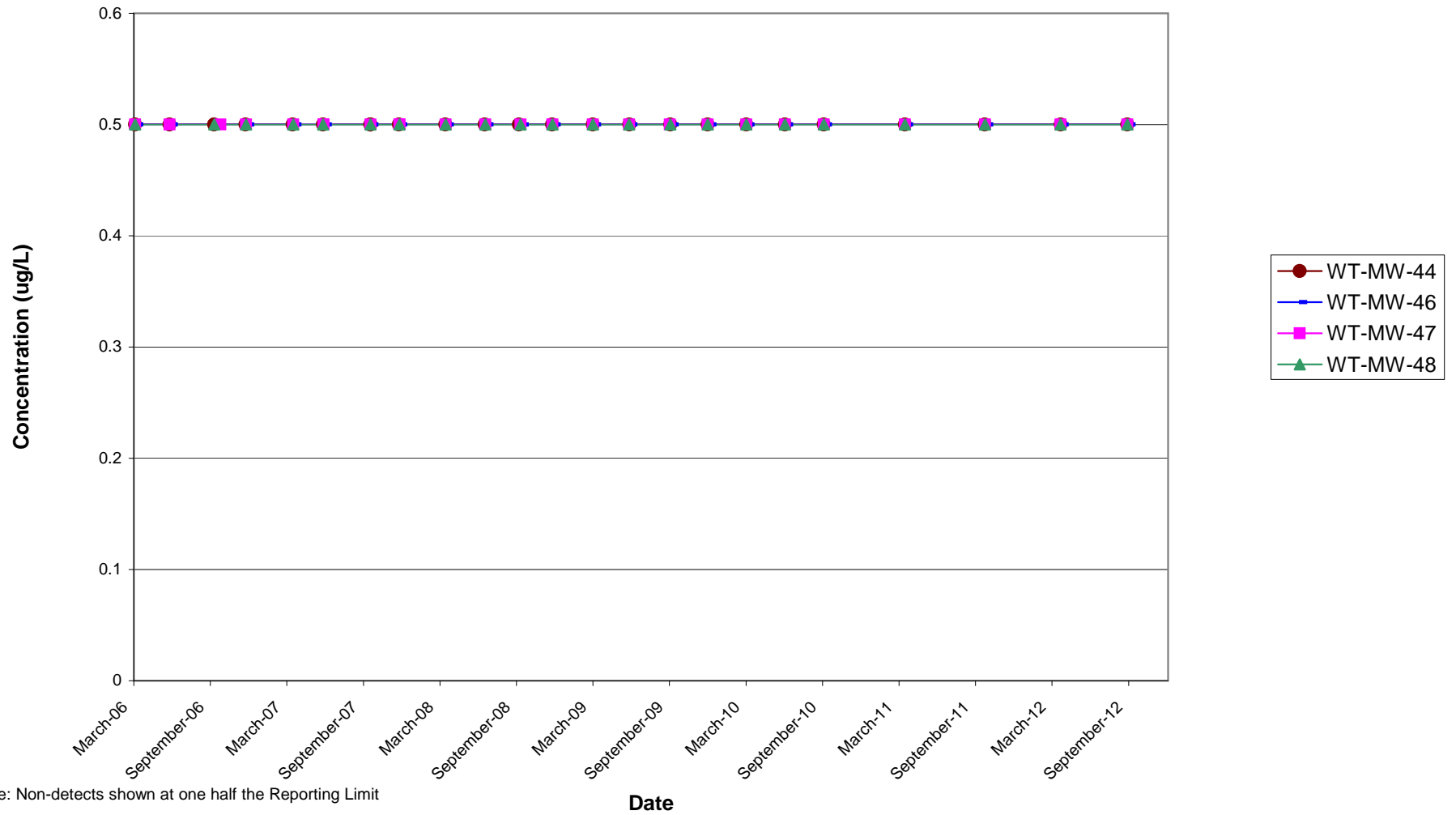
cis-1,2-Dichlorethylene (cis-1,2-DCE)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report



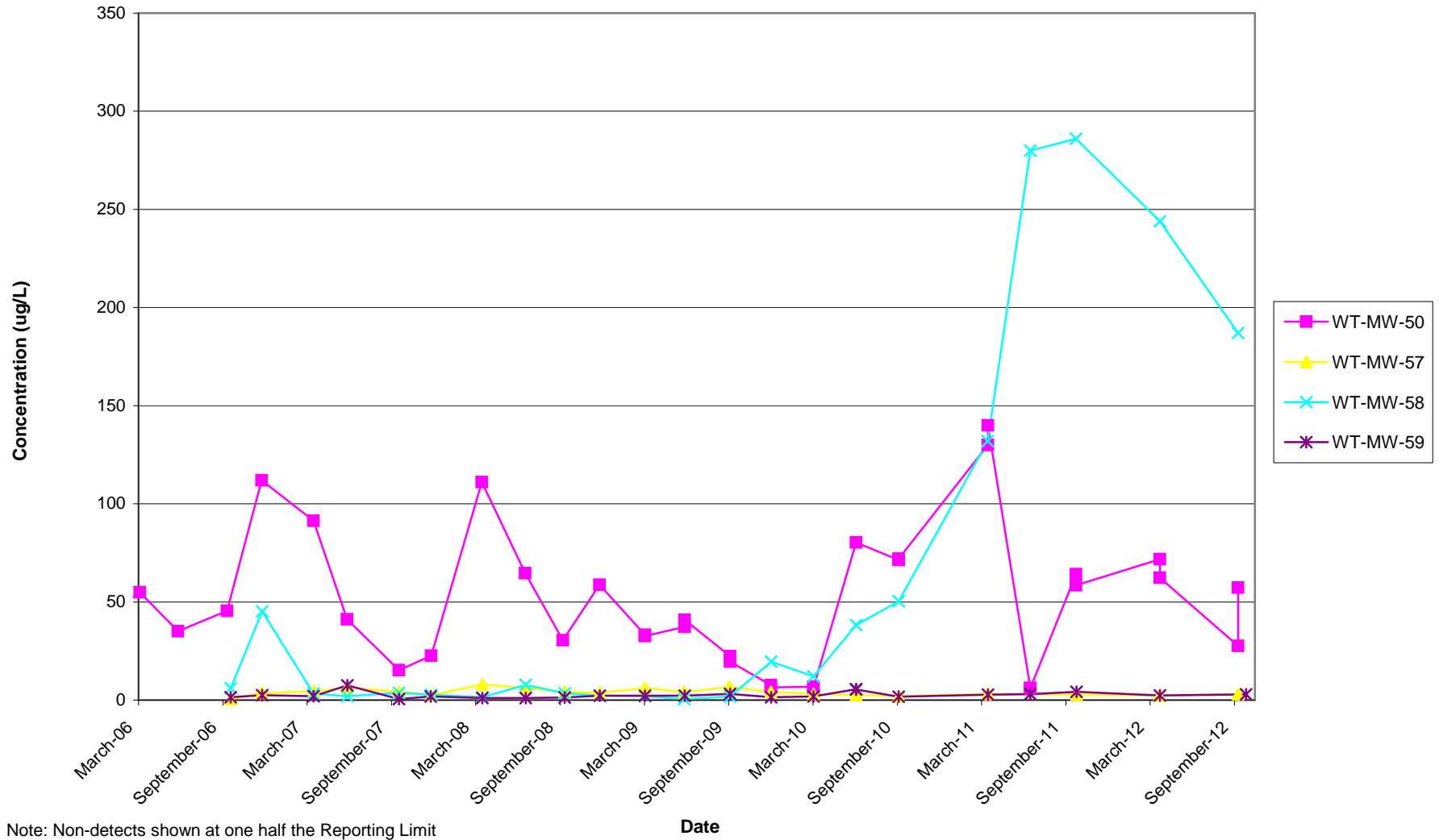
Tetrachloroethylene (PCE)
Pratt & Whitney, East Harford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report



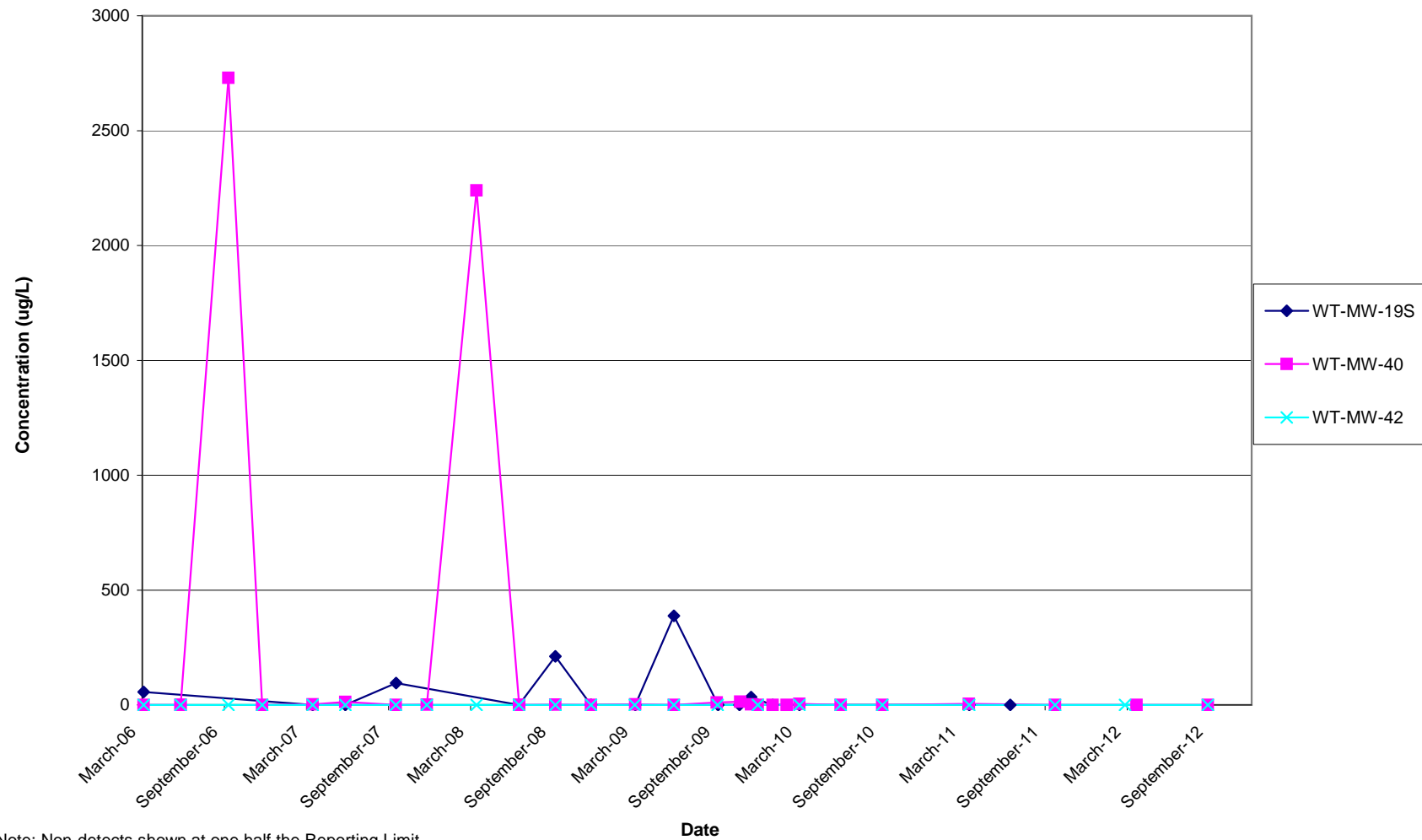
Tetrachloroethylene (PCE)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report



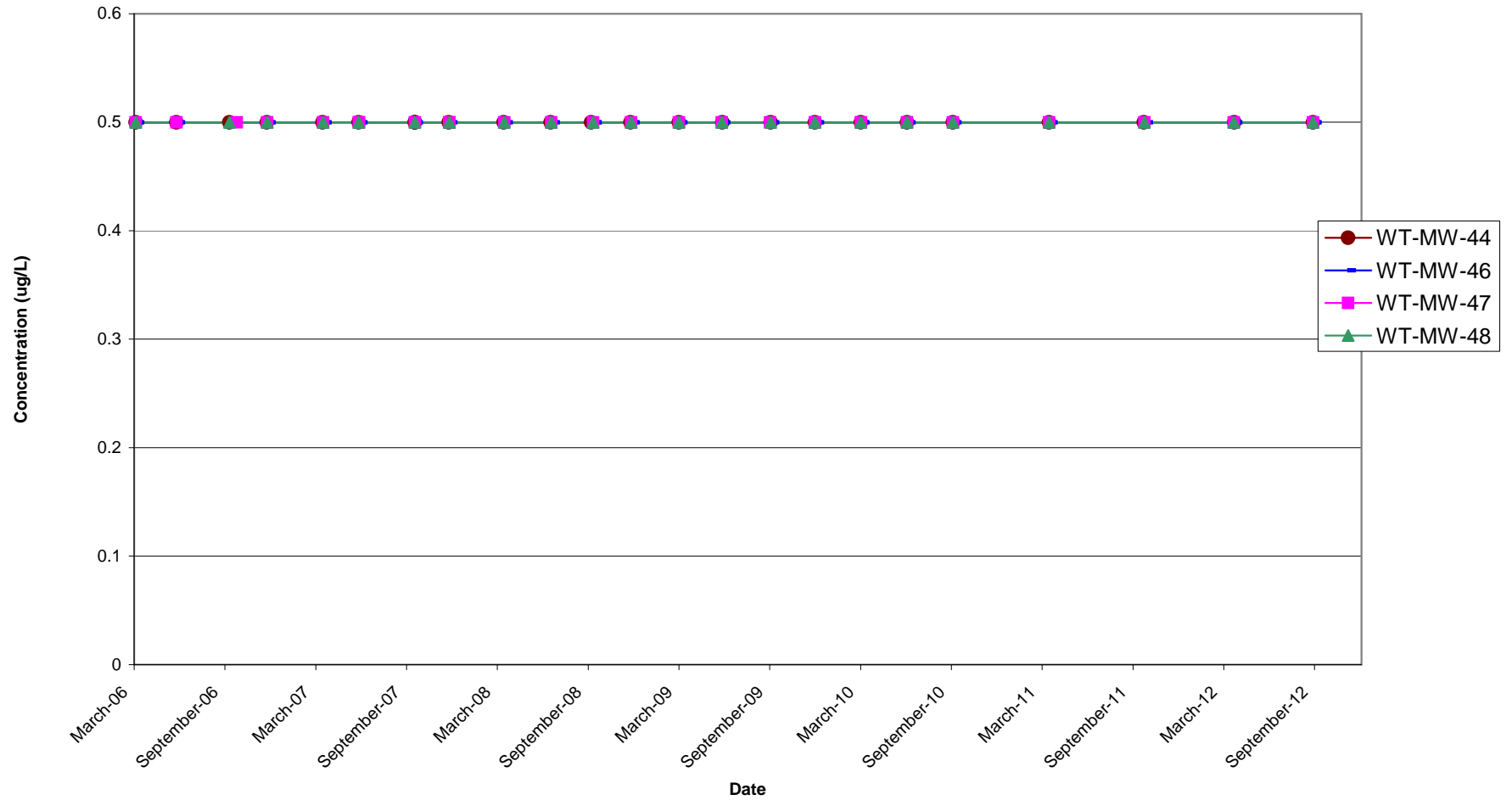
Tetrachloroethylene (PCE)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report



Trichloroethylene (TCE)
Pratt & Whitney, East Harford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

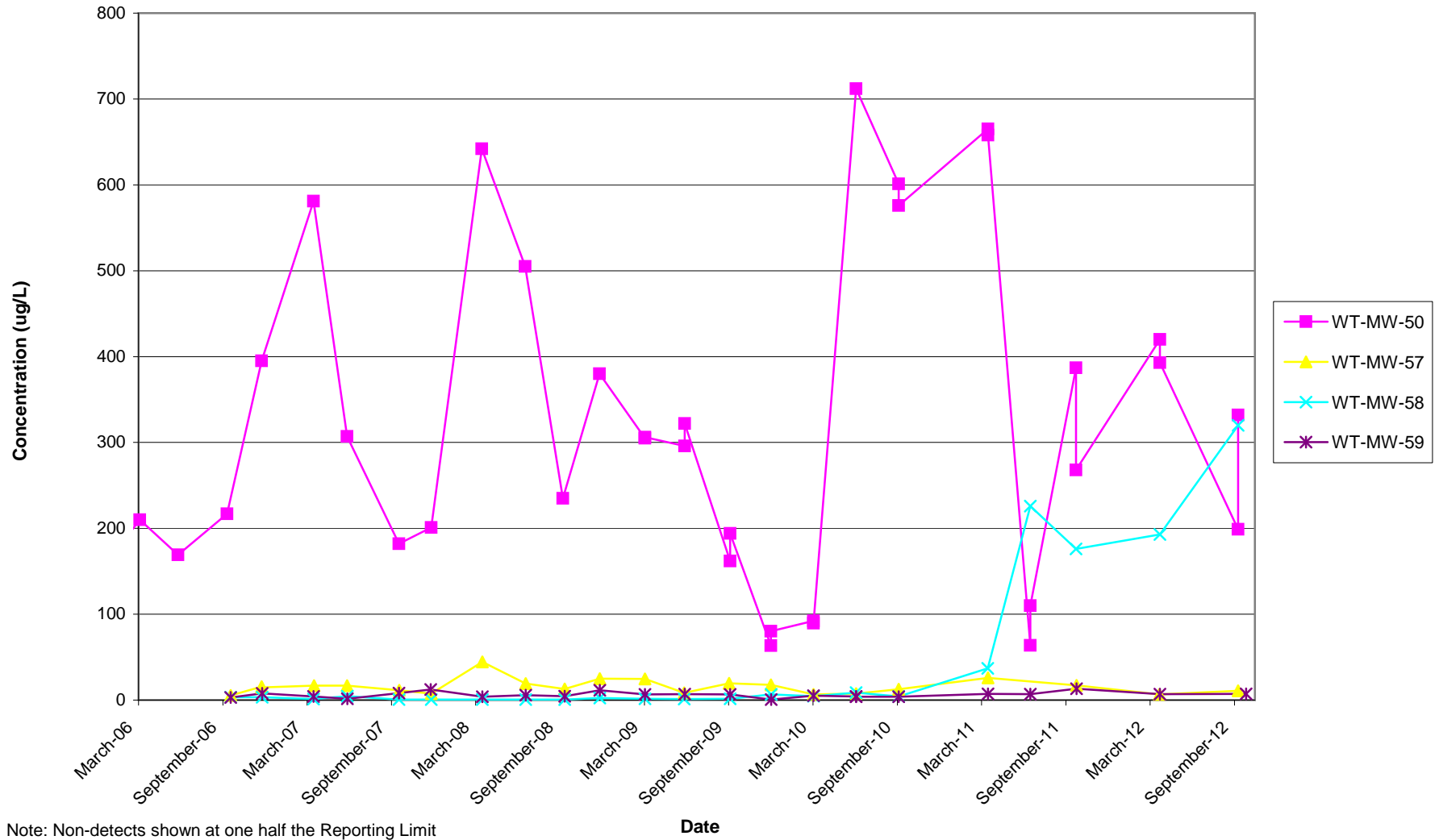


Trichloroethylene (TCE)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

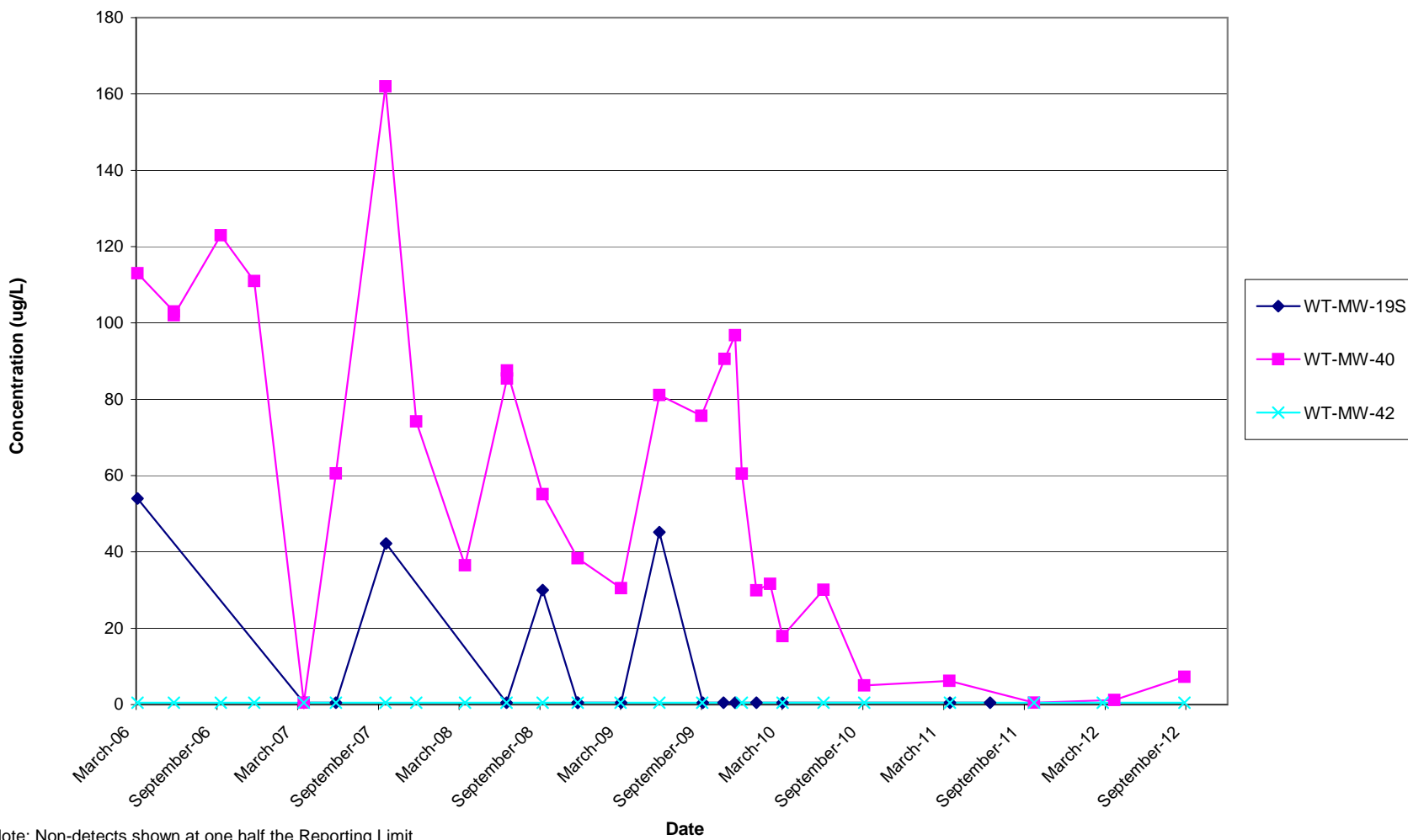


Note: Non-detects shown at one half the Reporting Limit

Trichloroethylene (TCE)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

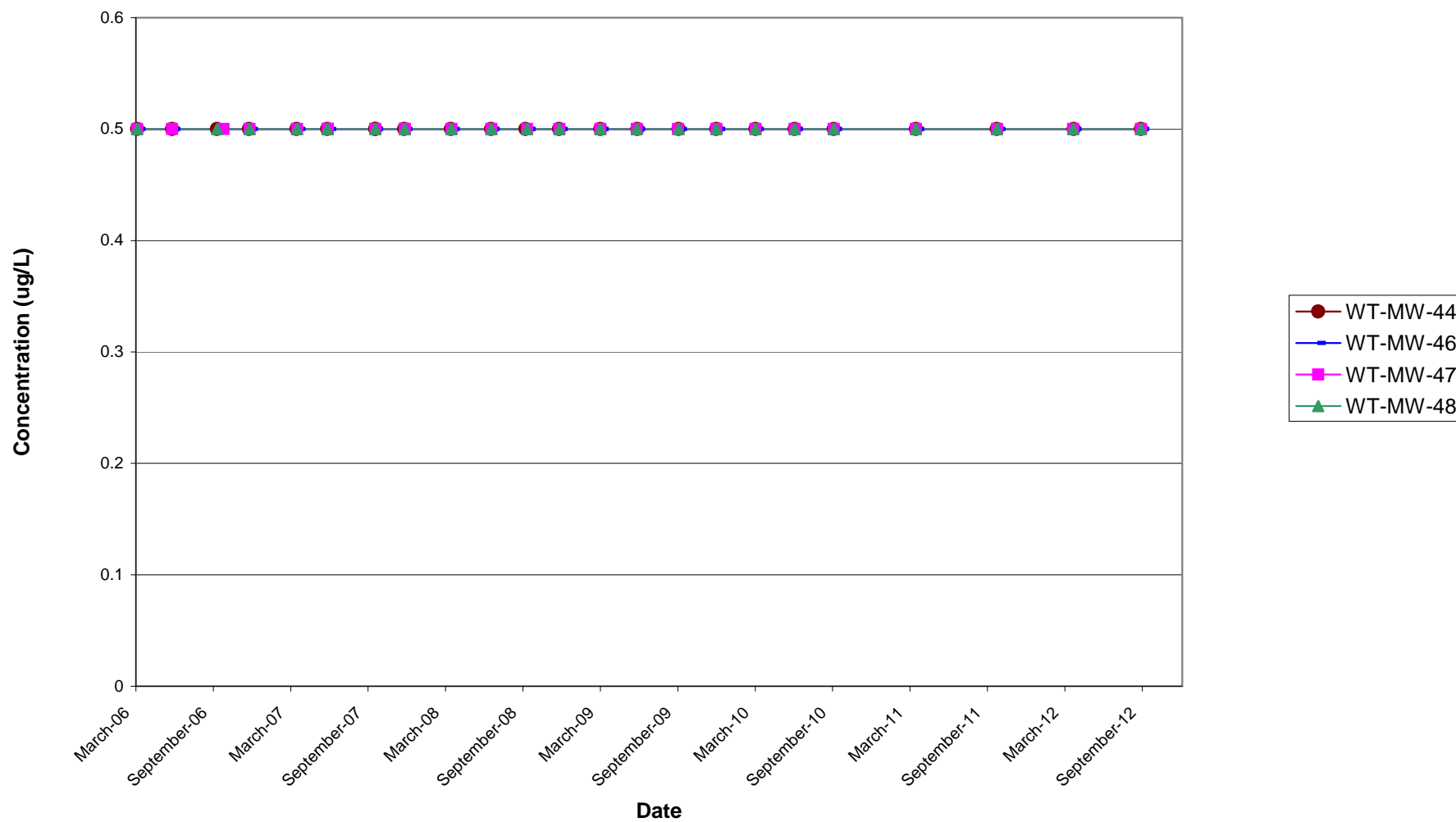


Vinyl Chloride (VC)
Pratt & Whitney, East Harford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report



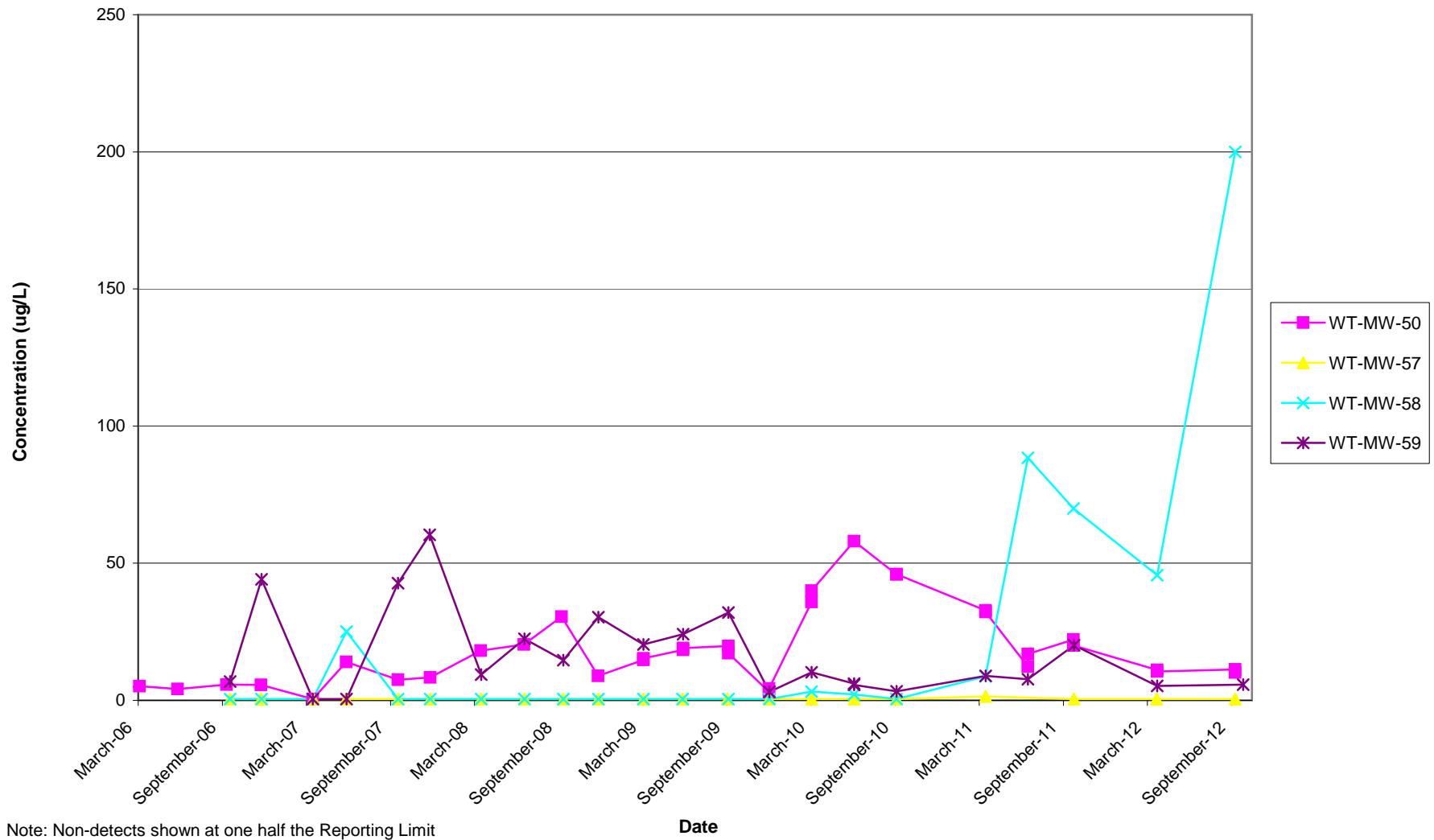
Note: Non-detects shown at one half the Reporting Limit

Vinyl Chloride (VC)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report

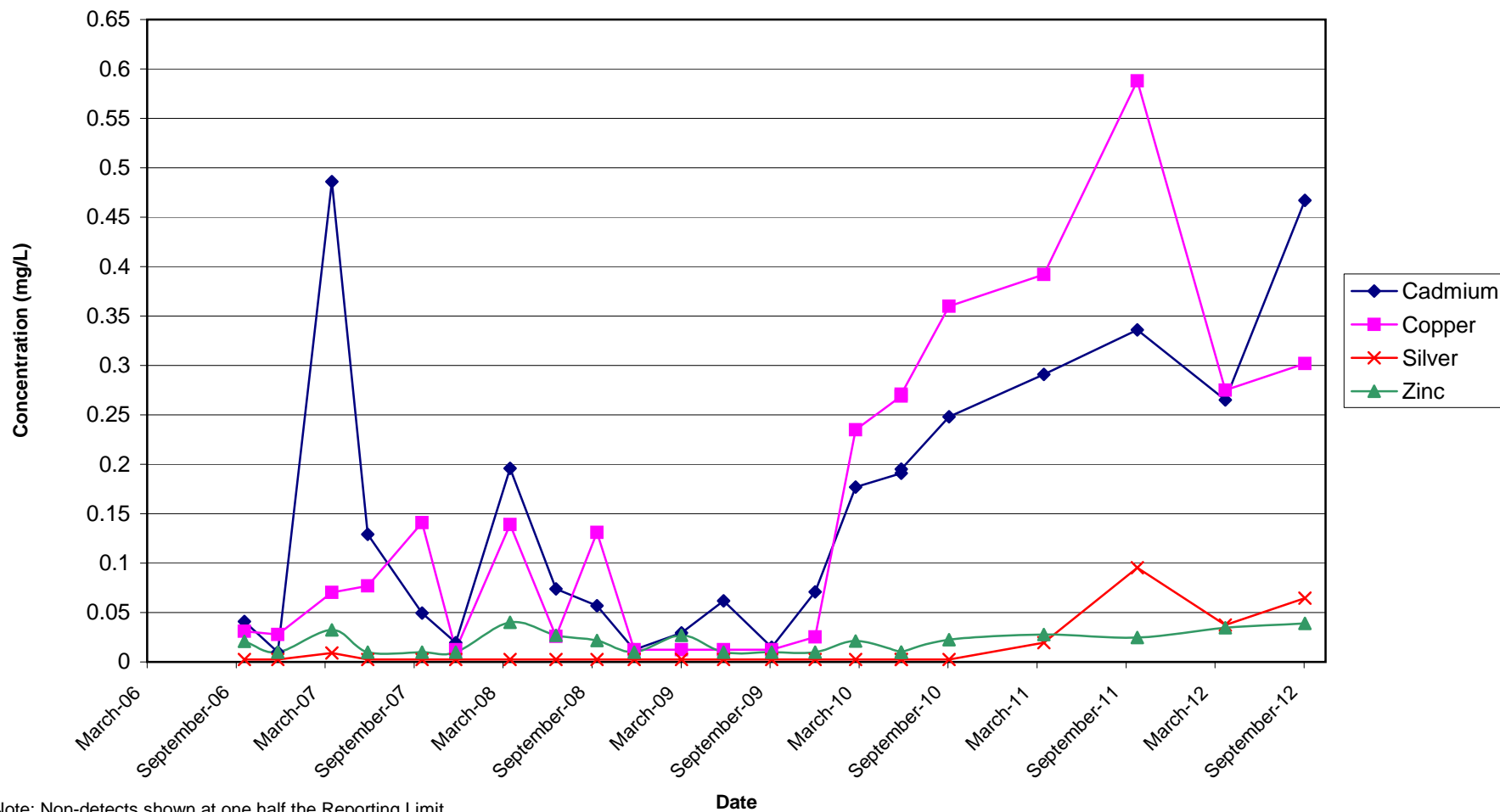


Note: Non-detects shown at one half the Reporting Limit

Vinyl Chloride (VC)
Pratt & Whitney, East Hartford, Connecticut: Willow Brook and Willow Brook Pond
2012 Annual Groundwater Monitoring Report



Select Metals in WT-MW-59
Pratt & Whitney, East Hartford, Connecticut: Willow Brook & Willow Brook Pond
2012 Annual Groundwater Monitoring Report



Appendix E

Post-Remediation Maintenance Monitoring Forms

**United Technologies/Pratt & Whitney
Post Remediation Maintenance and Monitoring Program
Willow Brook and Willow Brook Pond**

Weather Conditions: Sunny/Cloudy
Inspection Date: 3-27-12
Inspection Time: 0840-1430

Inspector: DD [Signature] Daniel Ryler
Reviewed By: Heather Towers

INSPECTION POINT	DESCRIPTION	GOOD	FAIR	POOR
1) Signs of erosion	Check for gullies of more than 2 inches in depth.	<input checked="" type="checkbox"/>		
2) Signs of settling	Look for ponding and for settling of soil of more than 3 inches over a 5 sq. foot area.	<input checked="" type="checkbox"/>		
3) Loss of vegetative cover	Check for loss of vegetation cover in any area greater than 5 square feet.	<input checked="" type="checkbox"/>		
4) Undesirable growth	Check for growth that is in excess of 1/2 inch in diameter (woody vegetation) and taller than 2 feet.	<input checked="" type="checkbox"/>		
5) Signs of ponding and run on	Look for areas of more than 5 square feet of standing water or areas where surface water is running onto cap.	<input checked="" type="checkbox"/>		
6) Condition of fencing and gates	Check perimeter fence to make sure it is not damaged (no holes greater than 4-inches in diameter), gates are operable, and locks are in place.	<input checked="" type="checkbox"/>		
7) Condition of rip-rap in Willow Brook stream channel	Observe entire length of stream channel. Verify that rip-rap has not been displaced.	<input checked="" type="checkbox"/>		
8) Condition of stone layer in Willow Brook	Perform probing of bottom of Willow Brook Ponds at 5 locations in upper pond and 15 locations within lower pond. Verify refusal on stone layer at all locations.	<input checked="" type="checkbox"/>		
9) Burrowing animals	Verify no holes larger than 2 inches in diameter in cap.	<input checked="" type="checkbox"/>		
10) Monitoring well network	Check concrete collar protective casing, locks, legible well identification.		<input checked="" type="checkbox"/>	
	1. Condition of lock		<input checked="" type="checkbox"/>	
	2. Visible ID of wells		<input checked="" type="checkbox"/>	
	3. Ponding or infiltration of surface water		<input checked="" type="checkbox"/>	
	4. Condition of concrete collar		<input checked="" type="checkbox"/>	
	5. Condition of steel casing		<input checked="" type="checkbox"/>	

Report all deficiencies to the designated representative of Pratt & Whitney

List all deficiencies, the corrective measures taken, and the date corrective measures were completed:

1) _____

Corrective Action: _____

2) _____

Corrective Action: _____

3) _____

Corrective Action: _____

4) _____

Corrective Action: _____

**United Technologies/Pratt & Whitney
Post Remediation Maintenance and Monitoring Program
Willow Brook and Willow Brook Pond**

Weather Conditions: 50's overcast, Breezy
Inspection Date: 7/24/12
Inspection Time: 7 A.M.

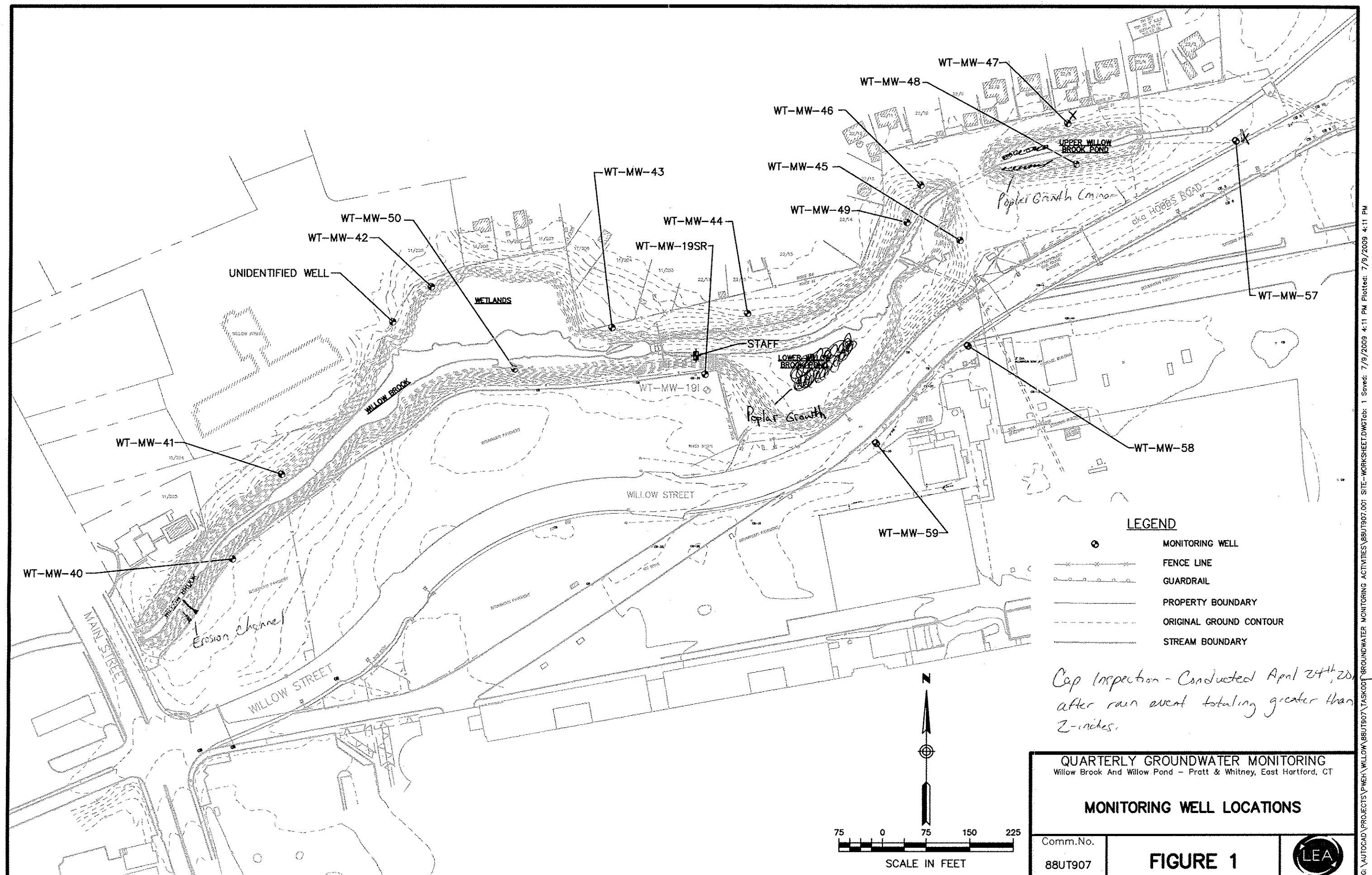
Inspector: Nate Emerson
Reviewed By: Robin McKinney

INSPECTION POINT	DESCRIPTION	GOOD	FAIR	POOR
1) Signs of erosion	Check for gullies of more than 2 inches in depth.		✓ - See Note #1	
2) Signs of settling	Look for ponding and for settling of soil of more than 3 inches over a 5 sq. foot area.	✓		
3) Loss of vegetative cover	Check for loss of vegetation cover in any area greater than 5 square feet.	✓		
4) Undesirable growth	Check for growth that is in excess of ½ inch in diameter (woody vegetation) and taller than 2 feet.		✓ - See Note #2	
5) Signs of ponding and run on	Look for areas of more than 5 square feet of standing water or areas where surface water is running onto cap.	✓		
6) Condition of fencing and gates	Check perimeter fence to make sure it is not damaged (no holes greater than 4-inches in diameter), gates are operable, and locks are in place.	✓		
7) Condition of rip-rap in Willow Brook stream channel	Observe entire length of stream channel. Verify that rip-rap has not been displaced.	✓		
8) Condition of stone layer in Willow Brook	Perform probing of bottom of Willow Brook Ponds at 5 locations in upper pond and 15 locations within lower pond. Verify refusal on stone layer at all locations.	✓		
9) Burrowing animals	Verify no holes larger than 2 inches in diameter in cap.	✓		
10) Monitoring well network	Check concrete collar protective casing, locks, legible well identification.	✓		
	1. Condition of lock	✓		
	2. Visible ID of wells			✓ - adequate m
	3. Ponding or infiltration of surface water		✓ - See Note #3	
	4. Condition of concrete collar	✓		
	5. Condition of steel casing	✓		

Report all deficiencies to the designated representative of Pratt & Whitney

List all deficiencies, the corrective measures taken, and the date corrective measures were completed:

- 1) Small erosion channels from willow st Parking Lot to willow Brook
Corrective Action: at west end of willow st Parking. (Continue Monitoring)
- 2) Young Poplar stand Growing in the Base of Lower Pond (Trees about 6')
Corrective Action: will need to be cut at some point
- 3) Monitoring Wells mw-47 + mw-57 have standing water inside Road Box
Corrective Action: Perform Road Box Maintenance
- 4) _____
Corrective Action: _____



**United Technologies/Pratt & Whitney
Post Remediation Maintenance and Monitoring Program
Willow Brook and Willow Brook Pond**

Weather Conditions: 80's Humid
 Inspection Date: 9/7/12
 Inspection Time: 13:47

Inspector: Jeremy Corcoran
 Reviewed By: Rob McKinnis

INSPECTION POINT	DESCRIPTION	GOOD	FAIR	POOR
1) Signs of erosion	Check for gullies of more than 2 inches in depth.		X	
2) Signs of settling	Look for ponding and for settling of soil of more than 3 inches over a 5 sq. foot area.	X		
3) Loss of vegetative cover	Check for loss of vegetation cover in any area greater than 5 square feet.	X		
4) Undesirable growth	Check for growth that is in excess of 1/2 inch in diameter (woody vegetation) and taller than 2 feet.		X	
5) Signs of ponding and run on	Look for areas of more than 5 square feet of standing water or areas where surface water is running onto cap.	X		
6) Condition of fencing and gates	Check perimeter fence to make sure it is not damaged (no holes greater than 4-inches in diameter), gates are operable, and locks are in place.	X		
7) Condition of rip-rap in Willow Brook stream channel	Observe entire length of stream channel. Verify that rip-rap has not been displaced.	X		
8) Condition of stone layer in Willow Brook	Perform probing of bottom of Willow Brook Ponds at 5 locations in upper pond and 15 locations within lower pond. Verify refusal on stone layer at all locations.	X		
9) Burrowing animals	Verify no holes larger than 2 inches in diameter in cap.	X		
10) Monitoring well network	Check concrete collar protective casing, locks, legible well identification.	X		
	1. Condition of lock	X		
	2. Visible ID of wells	X		
	3. Ponding or infiltration of surface water	X		
	4. Condition of concrete collar	X		
	5. Condition of steel casing	X		

Report all deficiencies to the designated representative of Pratt & Whitney
 List all deficiencies, the corrective measures taken, and the date corrective measures were completed:

- 1) Maintenance issues identified during the April 2012 inspection (erosion channel at west end of Willow Street parking lot and woody vegetation growing through the cap), were addressed by UEA/LCI during the week of October 15th, 2012.
 Corrective Action: _____
- 2) _____
 Corrective Action: _____
- 3) _____
 Corrective Action: _____
- 4) _____
 Corrective Action: _____

Appendix F

LEA Proposed Modifications Groundwater Monitoring Programs and CT DEEP Approval Letter



Loureiro Engineering Associates, Inc.

April 16, 2010

State of Connecticut
Department of Environmental Protection
Water Protection & Land Reuse
79 Elm Street
Hartford, CT 06016-5127

Attn: Maurice Hamel

**RE: Proposed Modifications to the Willow Brook Pond and Willow Street North
Groundwater Monitoring Programs, UTC/Pratt & Whitney, East Hartford,
Connecticut Facility**
LEA Comm. No. 88UT043

Dear Mr. Hamel:

As you are aware, United Technologies Corporation (UTC), Pratt & Whitney Division (P&W) has been conducting a program of quarterly groundwater monitoring and inspections to demonstrate the effectiveness polychlorinated biphenyl (PCB) remediation of contaminated soil and sediment within and immediately surrounding Willow Brook, Willow Brook Pond, and Willow Street North (herein after referred to as the "Project Areas") at the UTC/Pratt & Whitney manufacturing facility in East Hartford, Connecticut. As of the date of this letter, we can establish that the remediation has been effective and can demonstrate compliance with the Remediation Standard Regulations (RSRs) for PCBs. Other constituents present in groundwater from upgradient sources continue to be detected at concentrations historically observed for the Project Areas. Based on several years of data showing that conditions are at steady state, we are respectfully requesting, on behalf of UTC/P&W, approval for modifications to the groundwater monitoring program including decreases in both the sampling frequency and the number of locations sampled. Data supporting the proposed modifications is summarized herein.

Remediation Projects

The remediation of soil and sediment within and surrounding Willow Brook and Willow Brook Pond was undertaken to satisfy the requirements of Consent Order SRD-130 and was completed on August 31, 2002 (Willow Brook Pond Project). As you are aware, Consent Order SRD-130 remains in effect. Consistent with our meeting in April 2008 and our subsequent letter of May 1, 2008, it seems appropriate that the remediation activities be formally recognized by the DEP as being completed and the order be retired. The remediation of soil in areas between and below Willow Street and Willow Brook Pond (the Willow Street North Project) was undertaken by UTC/Pratt & Whitney on a voluntary basis in accordance with the document entitled *Remedial Action Work Plan and Request for Variance, Engineered Control of Polluted Soils, Willow Street*

and Willow Street North PCB Remediation Project (RAWP/RFV), approved by the Connecticut Department of Environmental Protection (DEP) on February 10, 2006. The Willow Street North Project was completed on August 11, 2006.

Groundwater Monitoring

Eleven groundwater monitoring wells (WT-MW-40 through WT-MW-50) were installed around the periphery of Willow Brook and Willow Brook Pond in June 2002. Three additional monitoring wells (WT-MW-57 through WT-MW-59) were installed in September 2006 following completion of the Willow Street North Project. One new monitoring well (WT-MW-19SR) was installed in April 2008 to replace monitoring well WT-MW-19S which had been installed prior to both remediation projects. The locations of these monitoring wells are depicted on the attached Site Plan.

Groundwater monitoring began after the completion of the Willow Brook Pond Project in 2002, was expanded following the Willow Street North Project in 2006, and continues to be conducted on a quarterly basis using a network of fifteen groundwater monitoring wells. The groundwater monitoring plans are detailed in Appendix D of the RAWP/RFV for the Willow Brook Pond Project and Appendix C of the RAWP/RFV for Willow Street North Project.

Groundwater samples from all fifteen monitoring wells are analyzed on a quarterly basis for PCBs by EPA Method 8082; volatile organic compounds (VOCs) by EPA Method 8260B; Connecticut Extractable Total Petroleum Hydrocarbons (ETPH) by the DEP approved method; and total metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc). Reports documenting the groundwater monitoring are submitted to DEP on an annual basis.

PCBs have only been detected on a few occasions over the seven years of post remediation monitoring and have not been detected in any of the groundwater samples analyzed over the past three years of quarterly post-remediation monitoring. Chlorinated VOCs, ETPH and total metals from sources located upgradient of the Project Areas continue to be detected in groundwater samples on a regular basis. A groundwater analytical data summary table listing each constituent detected, the maximum concentration detected, and date of the most recent detection is attached.

Groundwater Monitoring Program Reduction

Modifications to the groundwater monitoring program are being proposed as groundwater analytical results support the conclusion that remediation activities performed to date have been effective in eliminating PCBs as a potential groundwater contaminant source and that the concentrations of VOCs, ETPH and total metals at locations upgradient of the Project Areas have remained stable over time with no increasing trends. Based on these findings, we request authorization to reduce the monitoring frequency from quarterly to semi-annually. We also request that sampling of monitoring wells WT-MW41, WT-MW43, WT-MW45 and WT-MW49 be discontinued. The remaining eleven monitoring wells that will continue to be sampled under the revised groundwater monitoring plan are considered adequate to confirm that the engineered controls continue to function as intended.

April 16, 2010

Page 3 of 3

The first groundwater monitoring event for 2010 was completed on March 3, 2010. As such, we are proposing to conduct the next monitoring event in September 2010 in accordance with the revised groundwater monitoring frequency. Further modifications to the groundwater monitoring program will be evaluated after two semi-annual events have been completed and at appropriate times in the future.

We respectfully request a response to our request for modifications to the groundwater monitoring program before May 31, 2010. We would also appreciate an update regarding the status of actions being taken to retire SRD-130. Should have any questions or comments regarding this submission or any other aspect of the project, please contact me at 860-410-2968 or Lauren Levine at 860-728-6520.

Sincerely,

LOUREIRO ENGINEERING ASSOCIATES, INC.



Brian A. Cutler, P.E., L.E.P.
Senior Vice President

Attachments

cc: Lauren Levine, UTC

TABLE

SUMMARY OF CONSTITUENTS DETECTED
(DECEMBER 2002 THROUGH DECEMBER 2009)

Constituents Detected in Groundwater
Willow Brook Pond and Willow Street North Project Areas
UTC/Pratt and Whitney, East Hartford, Connecticut

Constituent	No. of Samples Analyzed ¹	No. of Detects	Maximum Concentration Detected				Date of Most Recent Detection
			Conc.	Units	Well I.D.	Date	
CT ETPH	403	172	1.66	ug/l	WT-MW-59	12/5/2007	12/9/2009
VOCs							
Acetone	411	18	32.1	ug/l	WT-MW-50	6/4/2005	6/7/2007
Methyl tert-Butyl ether	411	9	4.5	ug/l	WT-MW-48	9/28/2007	12/5/2007
Xylenes,m- & p-	411	2	2	ug/l	WT-MW-50	6/7/2007	6/7/2007
Toluene	411	8	13.5	ug/l	WT-MW-50	9/15/2008	1/20/2010
Methylene Chloride	411	9	23.5	ug/l	WT-MW-59	12/6/2006	9/11/2009
1,1,2-Trichlorotrifluoroethane	411	1	5.8	ug/l	WT-MW-59	9/11/2009	9/11/2009
1,1,1-Trichloroethane	411	36	477	ug/l	WT-MW-40	9/21/2006	12/8/2009
1,1-Dichloroethane	411	82	126	ug/l	WT-MW-40	9/21/2006	2/18/2010
1,1-Dichloroethylene	411	70	1100	ug/l	WT-MW-40	9/21/2006	2/18/2010
Benzene	411	21	6.2	ug/l	WT-MW-19SR	6/5/2009	12/8/2009
Chloroform	411	39	42.7	ug/l	WT-MW-19SR	6/5/2009	12/8/2009
Tetrachloroethylene	411	79	384	ug/l	WT-MW-40	3/24/2008	12/9/2009
Trichloroethylene	411	92	2730	ug/l	WT-MW-40	9/21/2006	11/23/2009
Vinyl Chloride	411	94	162	ug/l	WT-MW-40	9/27/2007	2/18/2010
cis-1,2-Dichloroethylene	411	143	804	ug/l	WT-MW-40	9/21/2006	2/18/2010
Methyl Ethyl ketone	411	1	15.2	ug/l	WT-MW-45	6/8/2004	6/8/2004
1,2-Dichloroethane	411	32	17.3	ug/l	WT-MW-40	9/21/2006	12/22/2009
Chloroethane	411	5	15.1	ug/l	WT-MW-40	9/21/2006	12/8/2009
Chloromethane	411	2	6.5	ug/l	WT-MW-42	6/5/2009	6/5/2009
trans-1,2-Dichloroethylene	411	44	14.6	ug/l	WT-MW-40	9/21/2006	2/18/2010
1,1,2-Trichloroethane	411	3	11.3	ug/l	WT-MW-40	9/21/2006	3/24/2008
Tetrahydrofuran	411	10	72.1	ug/l	WT-MW-50	12/6/2007	12/8/2009
Metals							
Arsenic (unfiltered)	396	125	0.0246	mg/l	WT-MW-50	6/30/2003	12/8/2009
Arsenic	6	6	0.0112	mg/l	WT-MW-48	9/19/2005	6/4/2009
Barium (unfiltered)	396	99	0.604	mg/l	WT-MW-50	12/23/2002	12/8/2009
Chromium, Total (unfiltered)	397	34	0.203	mg/l	WT-MW-59	9/27/2007	3/10/2009
Chromium, Total	6	3	0.0212	mg/l	WT-MW-59	9/27/2007	3/10/2009
Nickel (unfiltered)	396	82	2.3	mg/l	WT-MW-59	3/27/2007	12/9/2009
Nickel	6	3	1.46	mg/l	WT-MW-59	9/29/2006	9/29/2006
Selenium (unfiltered)	396	7	0.0145	mg/l	WT-MW-48	12/3/2003	12/17/2004
Selenium	6	1	0.0111	mg/l	WT-MW-48	3/22/2005	3/22/2005
Cadmium (unfiltered)	396	13	0.486	mg/l	WT-MW-59	3/27/2007	12/9/2009
Cadmium	6	1	0.0408	mg/l	WT-MW-59	9/29/2006	9/29/2006
Silver (unfiltered)	396	1	0.009	mg/l	WT-MW-59	3/27/2007	3/27/2007
Zinc (unfiltered)	396	44	0.198	mg/l	WT-MW-40	3/24/2008	3/11/2009
Zinc	6	2	0.021	mg/l	WT-MW-59	9/29/2006	9/29/2006
Lead (unfiltered)	396	8	0.0188	mg/l	WT-MW-48	9/28/2007	9/28/2007
Copper (unfiltered)	396	12	0.141	mg/l	WT-MW-59	9/27/2007	12/9/2009
Copper	6	1	0.0311	mg/l	WT-MW-59	9/29/2006	9/29/2006
Iron (unfiltered)	1	1	10.1	mg/l	WT-MW-50	2/26/2008	2/26/2008
Iron, Ferrous (unfiltered)	1	1	3.3	mg/l	WT-MW-50	2/26/2008	2/26/2008
Manganese (unfiltered)	1	1	6.84	mg/l	WT-MW-50	2/26/2008	2/26/2008
Manganese	1	1	6.54	mg/l	WT-MW-50	2/26/2008	2/26/2008
Nitrate Plus Nitrite (As N) (unfiltered)	1	1	7.8	mg/l	WT-MW-50	2/26/2008	2/26/2008
Nitrite Nitrogen (unfiltered)	1	1	0.052	mg/l	WT-MW-50	2/26/2008	2/26/2008
Nitrogen, Nitrate (unfiltered)	1	1	7.7	mg/l	WT-MW-50	2/26/2008	2/26/2008
Sulfate (unfiltered)	1	1	82.8	mg/l	WT-MW-50	2/26/2008	2/26/2008
Total Organic Carbon	1	1	23.3	mg/l	WT-MW-50	2/26/2008	2/26/2008
Dissolved Organic Carbon (dissolved)	1	1	21.6	mg/l	WT-MW-50	2/26/2008	2/26/2008
PCBS							
Arochlor 1248	404	3	1.2	ug/l	WT-MW-44	3/27/2007	3/27/2007
Arochlor 1254	404	2	0.29	ug/l	WT-MW-45	7/22/2003	7/22/2003

Notes:

¹ Includes samples collected and analyzed from Project Area wells as part of other groundwater monitoring programs

PCBs - Polychlorinated biphenyls

VOCs - Volatile organic compounds

ETPH - Connecticut Extractable Total Petroleum Hydrocarbons

mg/L - Milligrams per liter

ug/L - Micrograms per liter

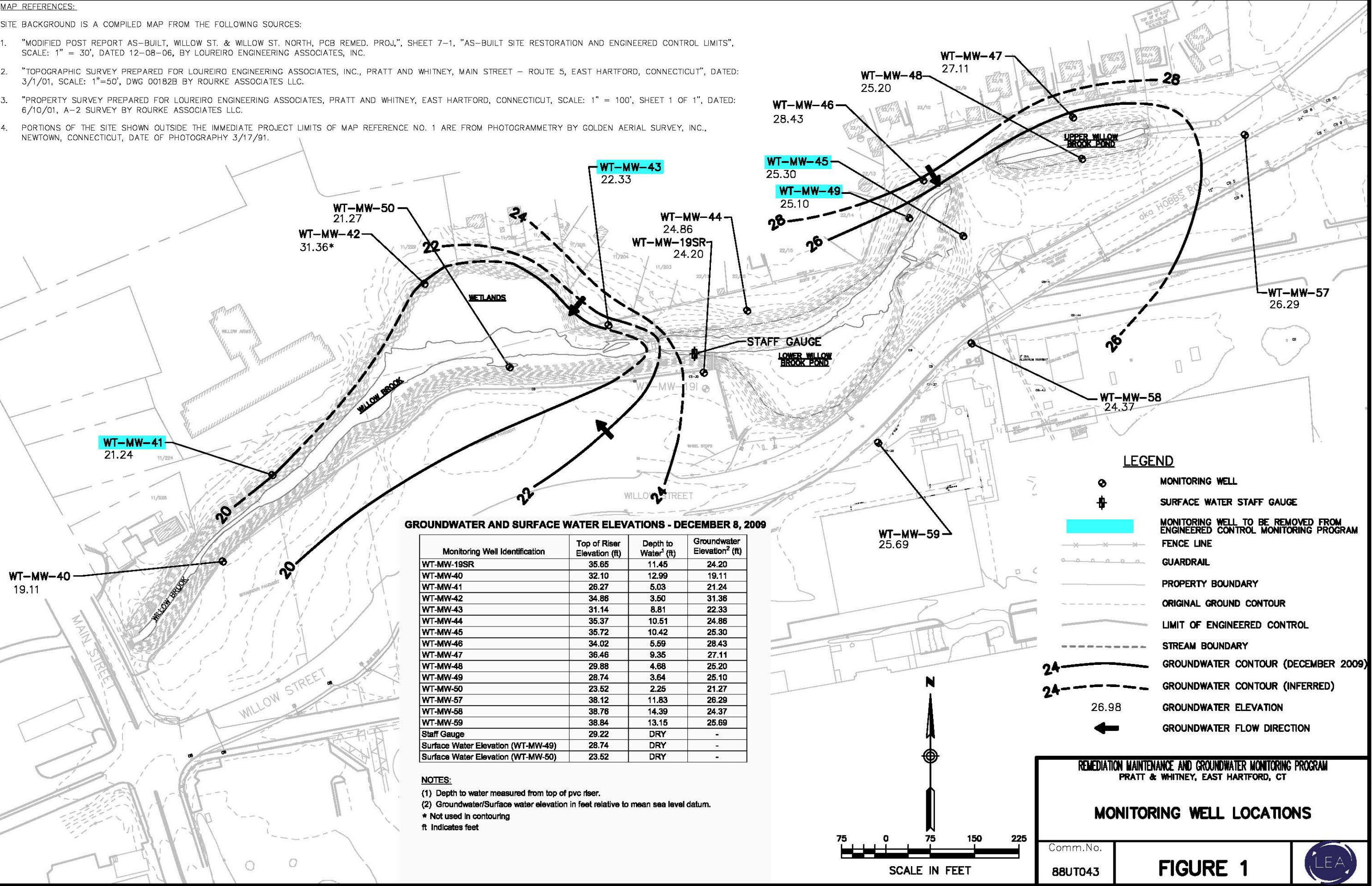
FIGURES

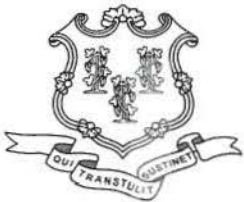
EXISTING AND PROPOSED MONITORING WELL NETWORK

MAP REFERENCES:

SITE BACKGROUND IS A COMPILED MAP FROM THE FOLLOWING SOURCES:

- 1. "MODIFIED POST REPORT AS-BUILT, WILLOW ST. & WILLOW ST. NORTH, PCB REMED. PROJ.", SHEET 7-1, "AS-BUILT SITE RESTORATION AND ENGINEERED CONTROL LIMITS", SCALE: 1" = 30', DATED 12-08-06, BY LOUREIRO ENGINEERING ASSOCIATES, INC.
- 2. "TOPOGRAPHIC SURVEY PREPARED FOR LOUREIRO ENGINEERING ASSOCIATES, INC., PRATT AND WHITNEY, MAIN STREET - ROUTE 5, EAST HARTFORD, CONNECTICUT", DATED: 3/1/01, SCALE: 1"=50', DWG 00182B BY ROURKE ASSOCIATES LLC.
- 3. "PROPERTY SURVEY PREPARED FOR LOUREIRO ENGINEERING ASSOCIATES, PRATT AND WHITNEY, EAST HARTFORD, CONNECTICUT, SCALE: 1" = 100', SHEET 1 OF 1", DATED: 6/10/01, A-2 SURVEY BY ROURKE ASSOCIATES LLC.
- 4. PORTIONS OF THE SITE SHOWN OUTSIDE THE IMMEDIATE PROJECT LIMITS OF MAP REFERENCE NO. 1 ARE FROM PHOTOGRAMMETRY BY GOLDEN AERIAL SURVEY, INC., NEWTOWN, CONNECTICUT, DATE OF PHOTOGRAPHY 3/17/91.





STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
APPROVAL



AUGUST 12, 2010

Lauren Levine
EH&S Department
United Technologies
One Financial Plaza
Hartford, CT 06101

RE: Willow Brook
PWA, 400 Main Street, East Hartford

Dear Ms. Levine:

The Remediation Division of the Bureau of Water Protection and Land Reuse has reviewed the letter titled, "Proposed Modification to the Willow Brook Pond and Willow Street North Groundwater Monitoring Programs, UTC/Pratt & Whitney, East Hartford, Connecticut Facility", dated April 16, 2010. The letter was prepared on your behalf by Loureiro Engineering Associates, Inc. and submitted in conjunction with Order #130.

The letter requests approval of modifications to the groundwater monitoring program approved on February 10, 2006, as part of the "Remedial Action Work Plan and Request for Variance, Engineered Control of Polluted Soils." It proposes the elimination of four of the fifteen monitoring wells from the program and reduction of the sampling frequency from quarterly to semi-annually.

The above referenced report is hereby approved.

The next deliverable due from you is the September 2010 monitoring results which are due on or before the end of the year.

Nothing in this approval shall affect the Commissioner's authority to institute any proceeding, or take any action to prevent or abate pollution, to recover costs and natural resource damages, and to impose penalties for violations of law. If at any time the Commissioner determines that the approved actions have not fully characterized the extent and degree of pollution or have not successfully abated or prevented pollution, the Commissioner may institute any proceeding, or take any action to require further investigation or further action to prevent or abate pollution. This approval relates only to pollution or contamination identified in the above referenced report.

In addition, nothing in this approval shall relieve any person of his or her obligations under applicable federal, state and local law.

If you have any questions pertaining to this matter, please contact Maurice Hamel of my staff at (860) 424-3787.

Sincerely,

Patrick F. Bowe, Director
Remediation Division
Bureau of Water Protection and Land Reuse

PFB:MRH
c: Brian Cutler, LEA

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